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# SUCCESSFUL FARMING

APRIL 1922



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## Our Purposes and Plans

### SERVICE-PLUS

"The service given by your paper is decidedly exceptional. I never heard of such service before and my neighbors are going to hear about it right away quick."

The man who wrote this expression subscribed for Successful Farming. He expected to receive a copy of the paper each month. No doubt he would have been satisfied if he had received nothing more than the twelve issues of the paper during the year, for which he had paid and to which he felt that he was entitled. He felt that this service was worth the price he paid for his subscription or he would not have subscribed.

But he was so unfortunate as to have a favorite horse injured and he turned to Successful Farming for advice. A prompt reply from our veterinarian is responsible for the expression quoted above.

This reader found that Successful Farming is more than the printed pages which the mail carrier leaves in his box once each month. He found that it is a big institution which stands ready and anxious to serve its readers in any way that it can and at any time. He found that the Editors do not feel that their job is done when they get out a paper each month, but that they are ready and anxious to help our readers solve the many problems which are constantly arising in their daily life.

It was in this spirit and for the purpose of rendering a more direct, personal, and special service than can be given thru the printed pages that our Subscribers' Information Bureau was organized. Thousands of inquiries are answered every year. Many of them are of such nature that the information would not be of interest or value to anyone but the person making the inquiry. Many deal with personal matters and must be treated as confidential. Others must be answered promptly in order to be of value. Whatever may be the nature of the inquiry, an earnest effort is made to obtain the information desired and the reply is made in the form of a personal letter to the person who makes the inquiry.

Nowhere is a greater variety of problems encountered than on the farm. It is impossible for anyone to be a specialist upon all the subjects which must be dealt with on any farm, but the next best thing to having information one's self is to know where to go for it when it is needed. No matter is considered too trivial to receive careful attention, for we realize that it is important to the person asking for the information or he would not take the trouble to do so.

Our Editorial Department is made up of specialists in the principal lines of farming and farm life. Their entire time is devoted to obtaining information upon subjects which they know are of interest to a large percentage of readers. We look upon every subscription to Successful Farming as a fee paid for service. The information and inspiration contained in the printed columns is one form of service and our aim is to make this service better with each issue. Our Subscribers' Information Bureau is another form of service. It offers you the services of trained and experienced men and women who are in touch with the best information along their several lines of work. It stands in the position of a friend to whom you can go for information upon matters that are of importance to you and be sure that your inquiry will receive careful and sympathetic consideration.—Editor.

### GUARANTEE OF ADVERTISERS

Our guarantee is squarely back of every advertisement and every advertiser in Successful Farming. We will not knowingly accept advertising from a dishonest concern. Advertisements for tobacco, patent medicines, liquor or mining schemes or any other questionable advertising are not accepted under any condition. Our readers are our friends and an advertisement in Successful Farming is an introduction of the advertiser to the homes of our friends.

We will not knowingly introduce a dishonest advertiser into your home thru the pages of Successful Farming and guarantee his honesty any more than you would knowingly introduce a dishonest person to your bank and guarantee his note. We refuse many thousands of dollars worth of advertising each month because we are not willing to guarantee these advertisers or their propositions to our readers. Our guarantee covers the manufacturers' promises whether you buy of the local dealer or direct from the manufacturer but we do not guarantee the debts of an honest bankrupt. When you answer an advertisement refer to this guarantee.

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## From Friend to Friend

### PROGRESS

Many years ago, the city of Babylon was attacked by Cyrus, king of Persia.

The Prince of Babylon retired into the city with his army and that he was perfectly safe because he had surrounded the city with great walls which the invaders could not climb. The city was built on either side of the Tigris river and the river flowed under a great arch in the walls and thru the heart of the city. But the mighty river had always been as great a protection as the walls themselves.

Cyrus was not content to sit down with his army in front of the city and wait. That had been the old way. Cyrus' father would have done that.

But Cyrus took most of his army up the river out of sight of the city and set them to digging great ditches out in the desert and leading toward the river.

Many of his generals thought he was crazy and his soldiers complained of the senseless and useless task. But Cyrus was all-powerful and they had to obey him.

When they had brought the great ditches up nearly to the river, Cyrus sent them back to dig further into the desert. Finally they heard that there was to be a great feast in Babylon in the palace of Prince Belshazzar. All the nobles and leaders of the army were invited. Much wine was served and they forgot that Cyrus was outside the city with an army of Persians.

At the height of the feast, Cyrus caused the great ditches to be opened into the river and the water flowed out into the desert instead of thru the city of Babylon, and Cyrus and his army marched into the city over the ground where the river had flowed before. The army of Babylon was destroyed and the city captured.

The farmer who fails to take advantage of new and improved methods and insists that his father's methods are good enough for him is like the people of the city of Babylon and must eventually give way to the farmer who follows the example of Cyrus and takes advantage of such new ideas and new methods and new machinery as can be used to advantage in raising a better crop or getting a better price or in making his family more happy and contented on the farm. A source of information that will lead to progress in farm life and farming methods, is the advertisements of implements, house and barn equipment, and almost countless articles, regularly appearing in Successful Farming. The newest improvements are usually advertised and the reader of advertisements is kept well posted.

Every advertiser in Successful Farming is an expert in his line. Our readers will do well to consult them. We guarantee that you will receive honest treatment.

E. T. MEREDITH, Publisher.  
By T. W. LeQuatte, Adv. Mgr.

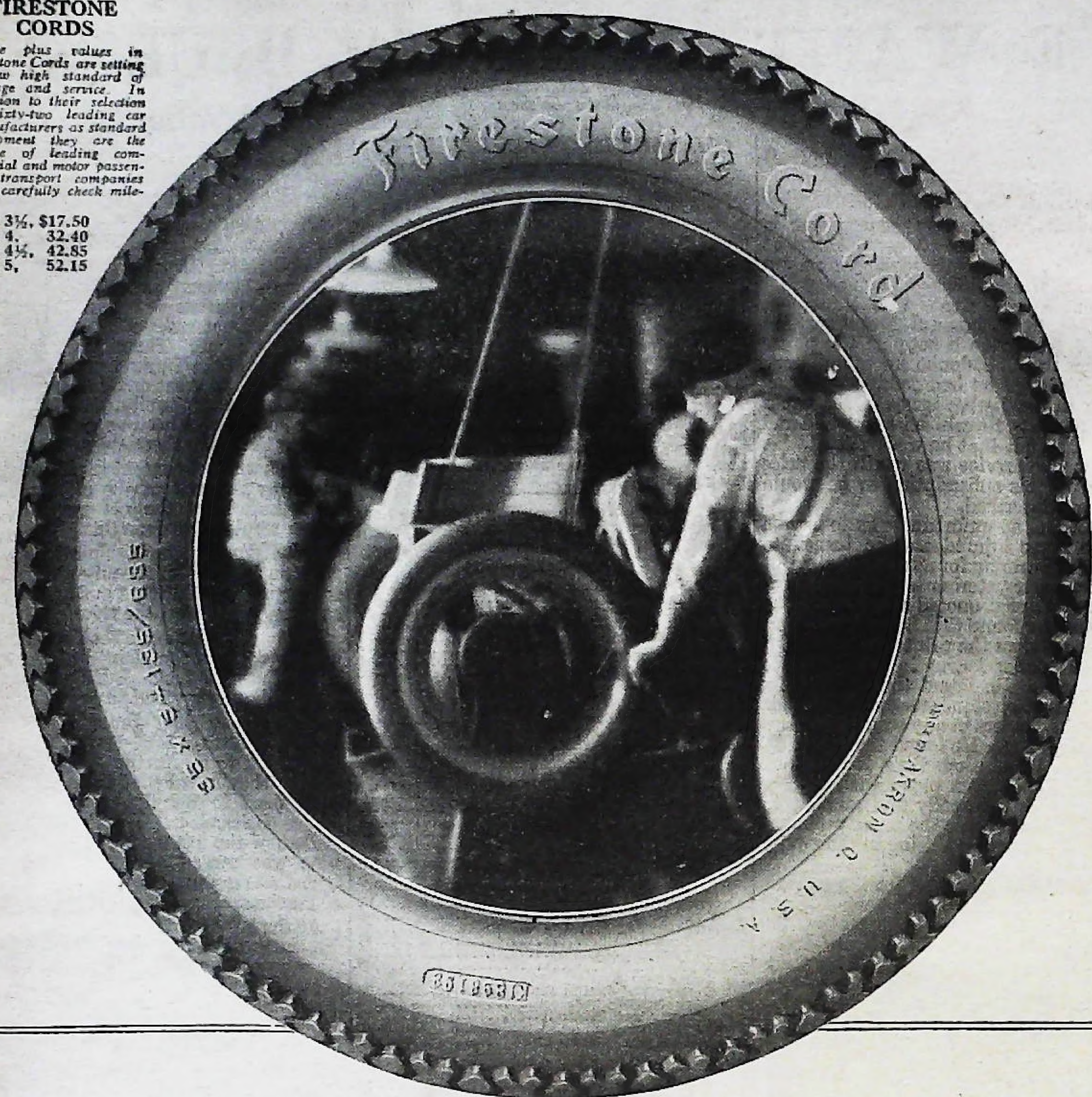
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The plus values in Firestone Cords are setting a new high standard of mileage and service. In addition to their selection by sixty-two leading car manufacturers as standard equipment they are the choice of leading commercial and motor passenger transport companies who carefully check mileage.

30 x 3 1/2, \$17.50  
32 x 4, 32.40  
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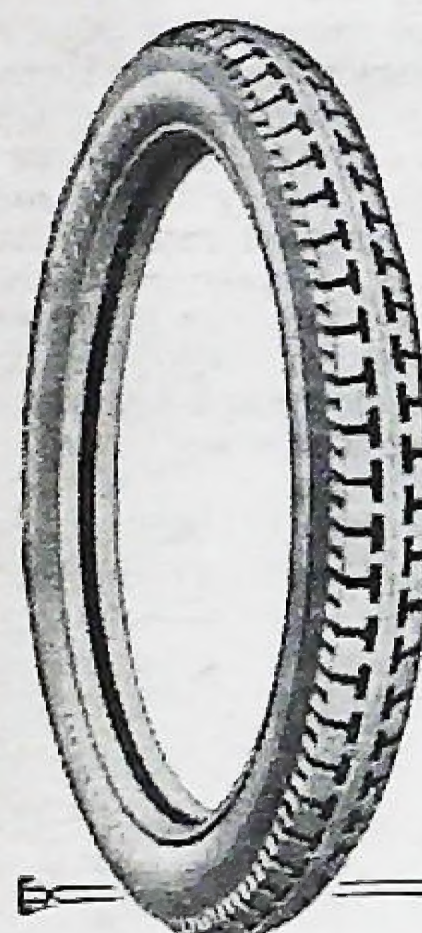
## Multiplied Economies

THE TIRE values now obtainable from Firestone dealers are outstanding examples of today's low cost of dependable mileage.

Minute economies—so small as to seem negligible to the layman's eye—become great in the aggregate. In the Firestone plants, scientific organization and equipment have reduced waste to the

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It is a matter of organization pride that Firestone Tires shall deliver their great mileage at the lowest cost per mile. The multiplied economies of large-scale production have made it possible at this time to give car owners tires of the finest quality at prices never equalled in the past.

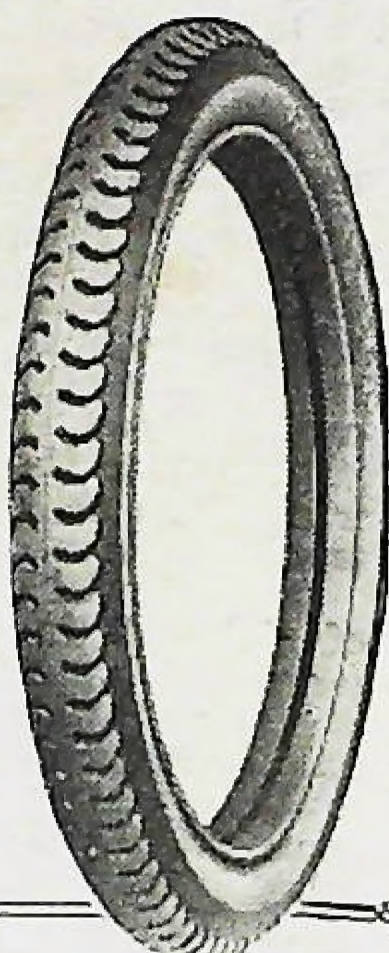


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Oldfield "999" a 30x3 1/2 non-skid full size tire. Built with 4 ply long staple fabric. In 30x3 size at \$8.99. At these prices this tire gives a remarkably high value in quality and dependable service. Sold by Firestone dealers.

# WE WANT THE DEEP BLUE SEA

*The Ocean Is the Premier Cooperator Between Nations*

By JAMES R. HOWARD



JAMES R. HOWARD  
President American Farm  
Bureau Federation

OUR country's first great pioneer was the sea. It spent a million years getting the harbor ready for the Mayflower. And it never deserted those brave explorers of a new world but stayed by to sail them home again and shorten the distance to the old country by bringing food and friends and news. A dependable old friend is the ocean, nursemaid to all development.

Only the rivers, those second great pioneers, could coax new settlers away from the sea. "Give service," said somebody to the rivers the day they were turned loose to play in the valleys, "and you will never be lonely." So they have never failed to cooperate with man as soon as he took advantage of their potentialities. Every great city in the world can thank an ocean or a river, or both, for its prosperity. "Give us your river,"

sneers the Sahara desert to the Mississippi valley, "and I too will be crowded with boasting farmers."

"My grain would fatten starving nations," wails the hemmed-in Middle West, "bring me the sea." "My ports are crowded," cries the sea, "give me new shores."

Hence another job worthy of America—bringing the ocean to the cornbelt.

But am I, a farmer, specifically concerned with bringing ocean vessels to the Middle-west via St. Lawrence and the Great Lakes? While I walk about my inland barnyard speculatively asking myself that question I see in my mind's eye an unmovable mountain of Iowa corn—potentially enough mush to feed Russia's starving children. On my own farm it lies in yellow piles—like Midas-gold, intrinsically valuable but giving pleasure to no one.

The question of whether or not I, as a farmer, am interested in bringing the ocean to the cornbelt is answered by the unsalability of my surplus products. I know that if a ship could steam up to my back hoglots—as it were—I like to think of it this way) my neighbors and I could sell that corn on the world markets. It is where we must sell if our marketing is to be healthy. Like the cave of Ali Baba there is more treasure in the Middle West than even our present day pirates can carry away. And under our present system of transportation one can no more get to Europe with the value of his products intact than he can carry a snowflake into the house on his palm. Supply and demand have to be close neighbors, figuratively speaking.

The Mississippi valley basin is capable of doubling and quadrupling its present production. In the Northwest from only thirty-three percent down to less than five percent of the productive area is occupied. Under present conditions the saturation point of population is reached long before the natural resources are fully utilized. In a number of interior

states the retardation of increase has been marked for the last thirty years. With enormous potential resources untouched the period is reached where growth and development are retarded if not arrested under the present scale of railroad traffic. Farmers are producing as a general rule only enough to satisfy their local markets. The rich Middle West is trying to absorb its own output. Considering how far we have advanced in science, invention, intelligence and human relationship, it would seem as unideal to us for one nation or one valley to produce only enough for its own use as for one family to make its own pottery for its own cooking and kill only enough game each day for its own sustenance. Boundary lines in trade between nations should be relegated to tradition along with other primitive tribal instincts.

The farmers of the Mississippi valley must come out of their seclusion and deal with the world. An economy, thrift, wealth, law, principle, art, or valuation that is not international lacks stability. The Iowa farmer suffers directly from the inequality of the world's money exchange. The ideals of Russia are a factor influencing our national thot. The wealth of Great Britain is a world asset and the famines of the near and far East are a drain on the prosperity of every nation. We must learn to think with an international viewpoint. To better understand and trade with other countries we must shorten the distance between us. The ocean is the best cooperator between nations that history can name.

The Middle West cannot be contained in itself and progress.

It has too much latent energy. It must have an outlet. It must get in direct touch with the regions of the world which complement its wealth. It must make connections by the shortest line. It must find the cheapest route to other shores.

The cost of transportation by rail has now reached the point where a thousand-mile haul across the country completely wipes out the margin of profit on many commodities. Transportation costs on water are materially less than by rail. In fact, freight can go five miles by water for exactly the same price it can go one by rail.

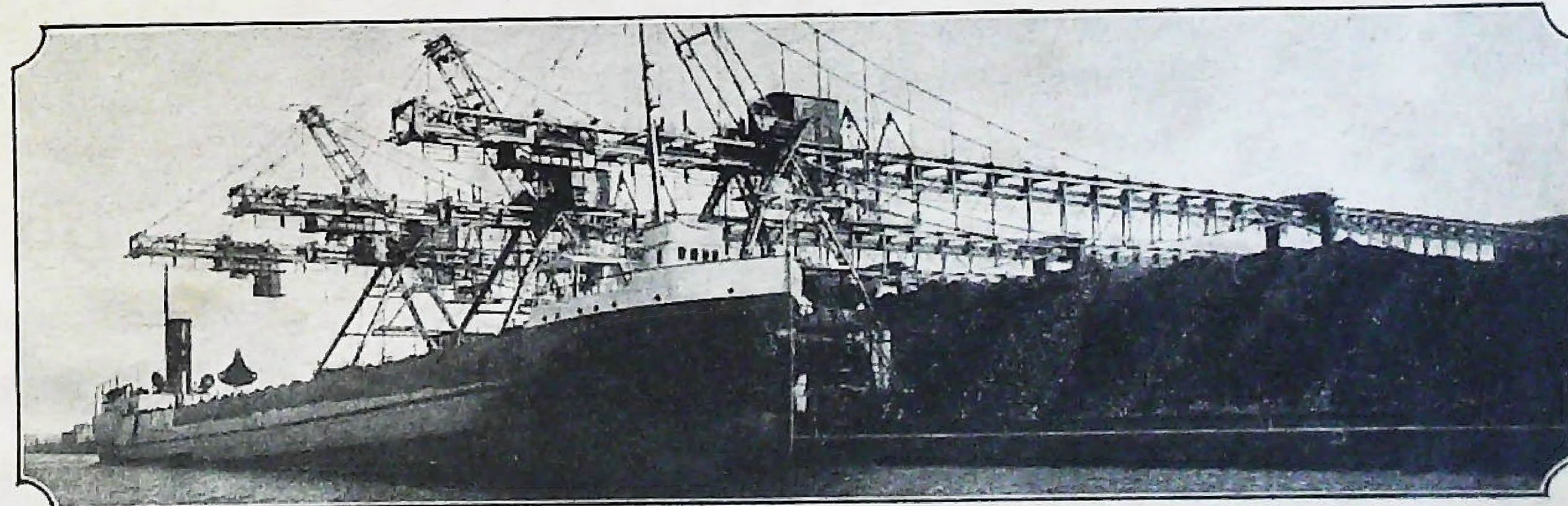
Wheat or corn can be laid down on our own Atlantic seaboard from Argentina, 8,000 miles away, with freight costing ten cents a bushel less than it can be hauled from the Mississippi river points, 1,200 miles away. The farmer of the Mississippi valley thus is compelled to compete not only with the cheaper labor of other countries but with a discriminatory transportation rate.

Not only are rail rates higher but for the inland producers the cost of stevedoring (loading) counts greatly in the cost of shipping to Europe. A large part of the transportation costs going to and from seaboard is terminal rather than line expense. That is because the Atlantic seaboard is too narrow and congested to accommodate the territory it serves. At New York the cost of stevedoring showed a charge of \$2.15 a ton, to which other items of cost are important additions. The transfer charges at the lake port of Buffalo averages about one dollar a ton.

It takes a lot of time for shipments to move thru the New York terminals. When the railroads (Continued on page 27)



Passenger steamer Panama.



When the proposed inland water route is complete, freighters can load at any of the Great Lakes ports.



# SUCCESSFUL FARMING

FOR THE BUSY, PRACTICAL, WORKING FARMERS OF AMERICA, WHOSE INTERESTS DETERMINE ITS POLICY

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## EDITORIAL COMMENT

### THE FORESTRY SQUABBLE

IF the interested parties, whoever they may be, are successful, the supervision of our public forests will be transferred to the department of the interior. For seventeen years the department of agriculture has administered the affairs of our national forests to the satisfaction of all but selfish interests that would profit enormously if they could pasture the forests without restraint, or cut timber without being forced to give heed to the future.

The department of the interior used to have charge of the national forests. Under chief forester Ballinger such a public scandal arose that President Roosevelt was forced to transfer the forestry service to the department of agriculture. There has been no scandal since. We want none. We believe it would be a public calamity to transfer the service back to the interior department.

We believe it would be to the best interests of all concerned if the Alaska forests which are still in the hands of the interior department were put in charge of the department of agriculture. The Alaska forests are not protected against fire as are those of the States.

### SUBSIDIES

THE question of ship subsidies is again before congress, urged by the president. It is also before the people. The farmers were against this proposition years ago and no doubt helped defeat it. They seem to be of the same mind today—ferminst.

It seems to place the farmers in a peculiar position. So long as they got no favors from the government they could kick up quite a row when any other interest tried to get a handout from the treasury. They are quite apt now to have thrown in their faces the charge of inconsistency. They will be reminded that they demanded and got millions of dollars thru the war finance corporation, and are asking \$5,000,000 more to be distributed among those in crop failure areas to buy seed with for another crop.

You will want to meet these charges, so get your definitions down pat. A subsidy is a gift by a government in excess of legitimate charges for a service, especially transportation. A ship subsidy will be a gift from our government amounting to a fixed sum in excess of the regular charge for carrying the mails. This bonus would enable our ships to carry passengers or freight, along with the mails, at a rate that could meet foreign competition. In other words, we would tax all the people so we can have a large merchant marine, not that our ships will carry American export merchandise any cheaper, but the ship owners will profit more.

Now, then, have the farmers been subsidized? Only to the extent of tax free farm loan bonds which enables them to get loans half a per cent or so cheaper than they otherwise could. So far as the millions received from the war finance corporation, the land banks or the proposed seed purchase appropriation they are loans and the farmers have to pay it all back. Therefore these are not subsidies to agriculture. You are therefore free to criticize ship subsidy or any other subsidy all you please. Go to it.

### BETTER TIMES AHEAD

WHEN a person is downright sick it riles him to have well-meaning friends tell him he is all right—nothing ails him. When a man is broke it does not go down very well for somebody to "kid" him about it. The sick man wants sympathy and a cure. The broke man wants understanding and at least leniency on the part of his creditors. A man who has passed the crisis and is on the way to recovery is benefited by being told that he is better.

Those who bravely hung on and smiled, if they could, can heave a sigh of relief, for the worst is over. Better times are not only ahead but are here. The prices of farm products have risen to an encouraging level and seem to be going still higher. Right here is where some are going to make a mistake. You know it is hard to sell anything on a declining market because buyers think they better wait and get things cheaper. This brings business stagnation. And it is just as true that producers do not like to sell on a rising market. They want to wait and get a little more. It is difficult to tell just when to let go and sell. Such is pure speculation.

The thing to do is to sell when the price seems fair enough, and meet your obligations or buy the necessary things. Such an attitude will start the wheels moving thruout the country.

Reports from manufacturers indicate that business is picking up. The railroads are hauling much more freight, which is a fair indication that stuff is moving again. Banks are easing up on credit, with plenty of money at lower rates. Merchants are having sales that clear their stores of wartime priced goods. The sale of steel indicates a revival of building, which means work for labor. World trade has been improving, which means that the world is getting over its spree. However, Europe has not yet deflated to the extent we have, so we may expect more or less depression until money the world over more nearly approaches par.

Farm conservatively, operate as cheaply as possible to get best yields per acre, and trust that with an improved marketing system there are better times ahead.

### SAFETY FIRST

THE Old Book says the way of the transgressor is hard. We might add in these modern times that the transgressor makes the way hard for others also. Carelessness takes a terrible toll of life and property, and the careless one so often escapes injury or loss. We are strong believers in all kinds of insurance. If there were any way of schooling the people against carelessness there would be less need for insurance. One is not even safe who uses due caution and care. The other person's carelessness may get you.

For six years the Iowa Highway Commission has been keeping a record of auto accidents in the state. The report is appalling. There were 1,548 deaths from auto accidents in the state in six years out of 21,241 accidents where 21,519 people were hurt. Of these deaths 1,172 occurred on the highways from collisions, ditchings, turnovers, hitting poles or bridges, and such common accidents, most of which could have been

## SUCCESSFUL FARMING

7

prevented by ordinary caution in driving; 376 people were killed at railway crossings where the car driver took a chance of beating the train to the crossing. In the year 1921 there were 215 accidents at Iowa railroad crossings in which 702 persons were injured. If we had the record of the United States it would be shocking.

What is it about auto driving that makes people so careless? Last year twelve drivers of cars ran into railway trains and injured thirteen persons in Iowa alone. One would think that there might be some excuse for being hit by a train at a bad crossing, but to drive into a train—!

A farmer will use the ordinary precautions of safety devices to keep his car from being stolen, or any of his property for that matter. He will sit up all night with a shot gun in hand to pepper some thieves in his melon patch or to get a weasel that is killing his chickens. He will form a posse and hunt the country over for a horse thief. Time is no object when his property is in danger. But when he gets into his auto he will forsake caution and hazard his own life and that of other passengers in a wild drive along narrow roads, over railroad crossings and around sharp turns. The farmer is no worse in this respect than city folks, but this message of caution will not be read by city drivers so we plead with the farmers to be more cautious all the time when driving cars. It only takes a moment to "stop, look and listen" at railroad crossings. At all other places consider life more valuable than property.

### HARD TO LET GO

THE conference for the reduction of armaments has finished its work so far as the first meeting is concerned and the delegates have gone home. They accomplished a great work. They made a start in reducing armaments which will be only a start if the nations are sincere in carrying out the expressions of international confidence. And no nation will be watched closer than the United States which fathered the conference.

The scrapping of parts of the navies of the great powers will mean a saving of billions of dollars to the tax burdened people. It will be as hard, however, for the navy department of the powers to let go of their great building plans and to destroy some of the ships already afloat as it is for labor to come down from war wages; for profiteers to get back to usual profits; for agriculture to become accustomed to lower prices for grain. Reducing the navy throws men out of jobs for which they have been trained.

Now that the Japanese scare has been put in the discard by the conference agreements, we can well reduce our standing army and land armaments also. Here again it will be hard to let go. Many an army man can sincerely say with President Harding: "I once believed in armed preparedness. I advocated it. But I have come now to believe there is a better preparedness in a public mind and world opinion made ready to grant justice precisely as it exacts it. And justice is better served in conferences of peace than in conflicts at arms," yet it is not an easy matter for an old soldier to get back into civil life and earn a living, especially in these times. So we can hardly blame the army and navy departments for hanging on to all the preparedness they can. Yet the tax burdened people should demand a reduction all along the line of preparedness. If we believe that the conference created something more than "a scrap of paper"; if we believe the conference created international confidence, then we should show our confidence by reducing preparedness for war.

### IS IT JEALOUSY OR SELFISHNESS?

TO one on the side lines, not a member of any farmer organization, it is pathetic to see the bitter rivalry that exists between some of the great farm organizations. The very thing that has made the farmer so helpless in his marketing has been his individualism. When necessity drove him to cooperate with his neighbors he took into the various organizations the same petty jealousies that have hampered the different churches. While he believed in the salvation of cooperation, he regarded with suspicion all forms but his own creed.

It took twenty years to overcome this. Great farm organizations had grown up, but the greatest was as almost nothing in relation to the entire farming population or the immensity of the marketing problem. Only within the last two or three

years has any attempt to get the various organizations to pull together been successful. And that attempt seems to have been like hitching a mule and an ox together. The committee of seventeen was composed of representatives of the various organizations. They sat and created the United States Grain Growers, Inc. Ere the new concern had begun to operate, trouble began. Charges and counter charges have been made from convention platforms. The co-operators do not seem inclined to cooperate.

Can it be that the old board of trade will have the laugh on the farmers? Are the farmers going to spoil their splendid plans by a row over who is going to get the most credit for the plan? Are some of the organizations going to pool their strength against the American Farm Bureau Federation in a bitter fight that will set farmer cooperation in marketing back fifty years? Is the American Farm Bureau Federation or any part of it going to be responsible for this rupture?

This is no time to row over trivial things. This is no time for organization jealousy or personal selfishness to block the way to pooling, or marketing in an orderly manner the grain crops that have always fallen into the hands of the grain trade where the real profits were acquired. Sit steady. Do not rock the boat. Platform speakers have a great responsibility. Quit nagging.

### RAILROAD PROBLEMS

THE railroads have put up such a plausible story of deficits and all that one feels like going down into his pocket and contributing to their relief. Then some economist of the railroad labor unions comes along with a set of figures that wipes all the tears from our eyes because we find that it is labor, and not the railroads that are the worst off. Then comes some figures from the office of Clifford Thorne in his case before the interstate commerce commission which show the railroads are not yet ready to go to the poor house, or quit business because of lack of equipment.

When each one figures from a different angle, or uses different years, or a different base, it leaves the public guessing as to who is right. It leaves us somewhat in the position of the blind man whom Christ healed. He could not understand the process but he did realize the fact. "One thing I know, that, whereas I was blind, now I see." We do not understand the railroad situation but we do know that the increased rates have upset many a business.

The raising of rates uniformly on all shipping proved to be a very erroneous method of obtaining revenue. Business becomes established upon a certain freight rate. Any radical change may ruin it. Freight rates and the tariff should be justly fixed and left alone.

We hope Clifford Thorne is correct. We hope the roads are really prosperous. Everybody believes that railroads are essential to our national prosperity. Nobody wants railroad investors to lose money. Yet nobody wants to be fooled in this matter, either, for if rates can come down they should, so that somebody besides railroads can prosper too.

### NEW WORLD RECORD COW

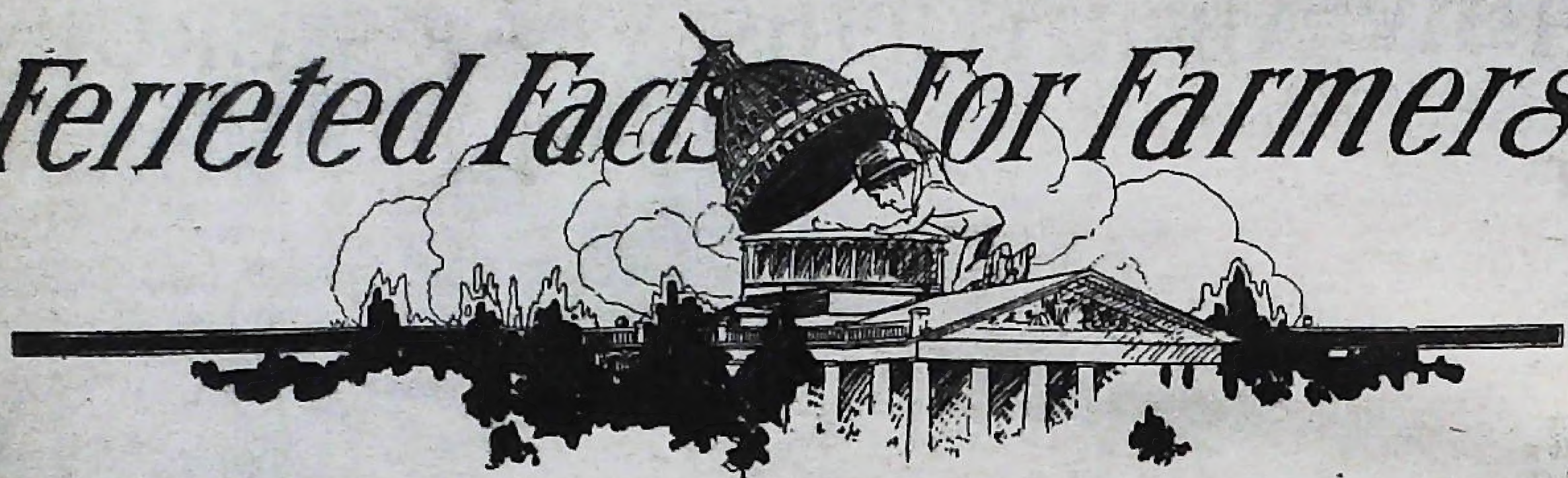
PRINCESS AGGIE POLKADOT DE KOL, a Holstein owned by H. P. Fisher of Minnesota, was declared a world beater at the conclusion of her official test, January 15. She is a four-year-old. She gave 31,600 pounds of milk containing 1,052.5 pounds of butterfat. This is equivalent to 1,315 pounds of butter.

This is no accident. She did not just happen. Princess is the result of careful breeding and the best of care. As each new record is broken we wonder to what limits of production a cow can go. What a wonderful machine is the well-bred cow! What a help in the reduction of overhead expense if a dairyman had a herd of such cows! Such a cow is equal to half a dozen ordinary cows.

If the National Grain Dealers' Association is so sure that the plans of the United States Grain Growers will end in failure to benefit the grain growers, why did they spend \$72,657 to combat the farmers? The old board of trade grain dealers seem to be whistling to keep up their courage when they declare that there can be no improvement over the old methods of marketing.



# Ferreted Facts For Farmers



## Inside News From Our Washington Correspondent

By ALASTAIR MONTGOMERY

THE element that is fighting the battles of the American farmer in congress and thru national organizations secured one of its most notable legislative triumphs last month when after two years of bitter struggle the Capper-Volstead cooperative marketing bill, stripped of every nullifying amendment, was all but unanimously adopted by the senate. The bill was immediately signed by President Harding and with the signing, the cooperatives of America launch on an unhampered career.

Victory indeed floated over the banners of the farm bloc that fought the fight on the "hill." On the final vote on one of the most vital measures on the program of farm relief the roll call stood 58 to 1, one single senator, Mr. Gerry of Rhode Island, sustaining the tradition of a "die hard." Passage of the bill in the form supported by the cooperative organizations came after the senate had overwhelmingly defeated an amendment of its own judiciary committee which would have nullified the vital provisions of the measure. So sweeping was the victory gained in the senate where the bill had been held up for nearly two years that prominent eastern newspapers saw visions of the senate turning into a "farm bloc," and the domination of legislation by the Cap-Ken clan.

Only one amendment of importance was permitted. It provides that cooperative associations must not deal in the products of non-members to an amount greater in value than such as are handled by it for members. The merit of this provision, it was explained in the debate, is that it will make it impossible for a cooperative association to be taken over by a group that declines to admit new members and thus making itself a closed body. An important provision is that the act forbids any member of an organization to cast more than one vote in a directorate, irrespective of his stockholding. No association may pay dividends on stock in excess of eight percent per annum.

Up-to-date figures compiled by the bureau of markets of the department of agriculture show that there are no less than 15,000 agricultural, livestock and fruit cooperative bodies doing business. They range all the way from pools handling each more than \$50,000,000 worth of commodities annually down to local elevators and small community packing and warehouses. Marketing experts here predict that the enactment of the law will quicken the trend towards organization on a national scale along the lines of the United States Grain Growers, Inc., the large livestock associations and large cotton associations of the south.

### Farm Bloc to Continue

THE departure of Senator Kenyon, of Iowa, the leader of the farm bloc to assume the duties of a federal judgeship will not affect the solidarity or purpose of the agricultural group in congress. This was clearly indicated at a conference of the bloc called to bid the Iowa leader farewell and to elect his successor. By unanimous consent Senator Arthur Capper, Republican, of Kansas, was elected to the leadership of the farm forces in national legislation. "The farm bloc," said Senator Kenyon, in his valedictory, "has survived thru criticism and abuse and I am sure it will go on. The bloc has the support and the approval of the people in the agricultural states and they want it to continue its work."

### Important Measures Now Pending

MEASURES in which the farmers of the United States have a vital interest are wedging themselves into the badly congested program of the administration. A review of the legislation particularly important to agriculture makes a rather formidable array.

1. There is first and foremost the Rural Credits bill which is based on findings of the Commission on Agricultural Inquiry and which establishes a farm credit department in each federal land bank. Thru provisions for short term credit and rediscounting privileges in federal reserve banks the bill in the opinion of the Commission spans the gap now existing between long

time credits and short time commercial credits. Hearings are soon to begin on the measure before the banking and currency committees of both houses and passage before the end of the session is assured.

2. The Muscle Shoals project. One of the bitterest contests of recent years has arisen here over the effort of certain interests to prevent Henry Ford from securing the Muscle Shoals lease. Two other offers besides the Ford offer are now pending. The farmer group are rallying round the Ford project because they claim that the Alabama Power Company's offer is backed by the "fertilizer monopoly" and that Ford alone guarantees to put fertilizer in large quantities on the market. Resolutions have been introduced to investigate the opposition to Ford acquiring the lease. The various plans are being investigated by committees of both houses preparatory to recommendations for legislation. Whatever offer is finally accepted will be modified before passage. At the moment the outstanding feature of the controversy is the disposition of the farm element "to give Ford a chance."

3. The fight on the Great Lakes-St. Lawrence-ocean waterway, at an estimated cost of \$250,000,000, advocated by President Harding, by the National Agricultural Conference at its recent meeting, and practically without a dissenting voice by the farmers and grain growers of the Middle West, appears to be imminent.

The favorable report of the International Joint Commission is being considered by two senate and two house committees and agricultural leaders are demanding that the matter be taken out of "cold storage" in the committee rooms and presented to congress. The alignment on the measure was focused in a debate staged between Governor Miller of New York, whose state is opposing the project, and Governor Allen of Kansas, before the National River and Harbors Congress on March 1. Governor Allen put forth the position of the middle-western states. The plan advocated by the International Commission, he declared, would solve the transportation question for the western farmer and would be an economic asset to the whole country. Farmers of this section are on a 1,200 to a 1,400 mile rail radius, the longest in the world, and will face a crisis when the return of normal business strains the facilities of the railroads, Governor Allen declared.

4. Legislation providing for government subsidy to American ship operators recommended by President Harding and now on the calendar of both houses, brings to the front a part of the administration's policy which will undergo critical study at the hands of the farmer element. Like the St. Lawrence project the measure bids fair to divide the country territorially. The principal factor of controversy in the legislation is the provision which would pool ten percent of the customs duties, hand them over to the tune of some \$32,000,000 to the Shipping Board, to be applied as aid to private ship operators. It is too early as yet to predict the alignment but it is not too early by any means to detect the disposition of the agricultural forces to look askance at "subsidies" on principle. Many feel that if the government is to aid private operators to keep the flag on the seas it would be better to maintain the fleet as a government concern. It is probable that the forces who view the situation thus will use the ship subsidy measure as a lever to compel action on the St. Lawrence project just as they held up the proposed railroad subsidy to compel downward rate reduction.

5. The question of Canadian reciprocity has been injected into the tariff mess by the recent visit to Washington of representatives of the Canadian government urging that the reciprocity agreement of 1911 be put into effect. Whatever encouragement the administration proper gave of special consideration for Canadian imports when the tariff wall is put up, the echoes from the "hill" were unequivocal on one point, namely, that congress will not stand for a general reciprocity such as the Taft treaty of 1911 proposed. Notice to this effect was served on the Canadian minister of finance. (Continued on page 46)

# HOW ABOUT THIS YEAR'S CROPS?

## Reports From Many Farmers Indicate Spring Plans

THERE has been much talk of late about decreased corn acreage, increased production of legumes, oversupply of dairy products and the possibilities in feeding out pigs on low priced grains. To what extent these reports are facts can only be determined by actual figures from farmers. Definite figures only can indicate what the real prospects for the coming year will be. Every farmer could more safely lay out his own program if he knew what other farmers were going to do and could foresee the possible effect of such action on the world supply and consequently on his own market.

It was to get some definite facts as to what farmers thruout the cornbelt expect to do and whether or not radical changes will be made along any line that Successful Farming published in the February issue a questionnaire entitled "What About Next Year's Crops?" The idea was that if a large number of our readers would tell what they individually expected to do, a summary of all the replies would give a pretty fair estimate as to what might be expected in the way of production for another year and consequently the market possibilities. The presentation of such facts would undoubtedly be a real service in helping Successful Farming readers to lay out a sane and safe program that would result in the largest returns. Possibly it would be the means of keeping some from making radical increases or decreases in production, or other changes in methods of farming for which they might be sorry later.

As this issue goes to press hundreds of replies have already been received and they are still coming in large numbers. Most of them are from the Central-West states—the section which produces the bulk of practically all the important food products, both crops and livestock. Over 1,000 of the first reports were tabulated and the results compiled according to sections, states, and the amount of acreage devoted to various crops or number of livestock expected to raise in 1921 as compared to prospective acreage or number of each in 1922.

The question that comes to almost every cornbelt farmer's mind first is "what about corn?" Are they going to decrease next year; if so, how much? The first 837 replies from the thirteen cornbelt states showed a total corn acreage last year of 34,213; this year these same farmers expect to plant 33,308 acres, a decrease of 2.6 percent. Illinois, Indiana, Iowa, Michigan, Missouri, Nebraska, and Ohio report decreases from 3.2 percent to 16.5. Kansas, Minnesota, Oklahoma, Wisconsin and the Dakotas will increase acreage in amounts ranging from 8 percent to 50 percent. According to the reports it is the farmers raising corn on a large scale who expect to decrease. Farmers raising less than ten acres in 1921 will increase acreage this year to the extent of over 300 percent; farmers who raised between ten and forty acres in 1921 will likewise increase acreage; farmers who last year raised between forty and eighty acres of corn will decrease in about the same rate that the smaller acreage fellows increase; farmers raising between eighty and one hundred and sixty acres of corn will decrease an average of thirteen percent and those over one hundred and sixty acres, eleven percent. About fourteen percent of the farms will make no change in corn acreage, either a decrease or increase. The West, East and South all report larger proportionate cuts in corn acreage than in the Central-West.

Indications from these reports are that wheat acreage in the Central-West will be increased about three percent. Some states will decrease wheat acreage but other good wheat states show a radical gain in the 1922 acreages.

Practically all farmers except those with small acreages of oats expect to reduce the amount of space devoted to the crop. The average decrease for all states is 8.2 percent. North Dakota and Ohio are the only Central-West states indicating an increase.

What, then, will be grown on this land which a year ago raised corn and oats? The answer came in the questions on legume crops. Alfalfa acreage will be increased 29 percent, especially in small acreages, indicating that many who have had small acreages have found it a profitable crop and many more

are trying it on a small scale. The West and South are reducing their alfalfa acreage. Ever-popular clover will lose none of its prestige but will be increased in all sections of the country, on farms of practically all sizes, an average of 22.5 percent. It is a healthy sign for American agriculture when clover acreage is on the increase; evidently our farms are being put back onto a more balanced program after the disruption in rotations of the past three or four years to meet temporary world needs for grain. Hardly a state in the Union showed a decrease in clover. Soybeans are gaining in popularity in all parts. The big corn states especially are going to try soybeans on a small scale—ten acres or less. The total increase will average 123 percent with a decrease in only one Central-West state.

Large numbers of other crops will be grown in increased amounts over last year, such as timothy, rye, potatoes, buckwheat and sugar cane. Indications are that it will be a year in which many farmers will experiment in a small way with new crops. This is a good thing—there are many crops adapted to particular conditions and climates which would be profitable additions to the farm revenue. Every farmer would do well to set aside a small acreage for trying out new crops.

There is not a state in the cornbelt that will not see more cows milked in 1922 than in 1921; in fact, the reports

to date show only one state in the whole country with a decrease in milk cows. The average increase is 26 percent. Those farms having five cows or less are increasing 60 percent; those milking six or eight cows, 17.7 percent; nine to fifteen cows, 9.3 percent; sixteen to twenty-five cows, 8.7 percent and those milking twenty-five cows or more will increase 15.9 percent. About 25 percent of farms reporting are making no change. Dairying has been a profitable business the past year and many are realizing the milk cow is a good stabilizer of the farm income.

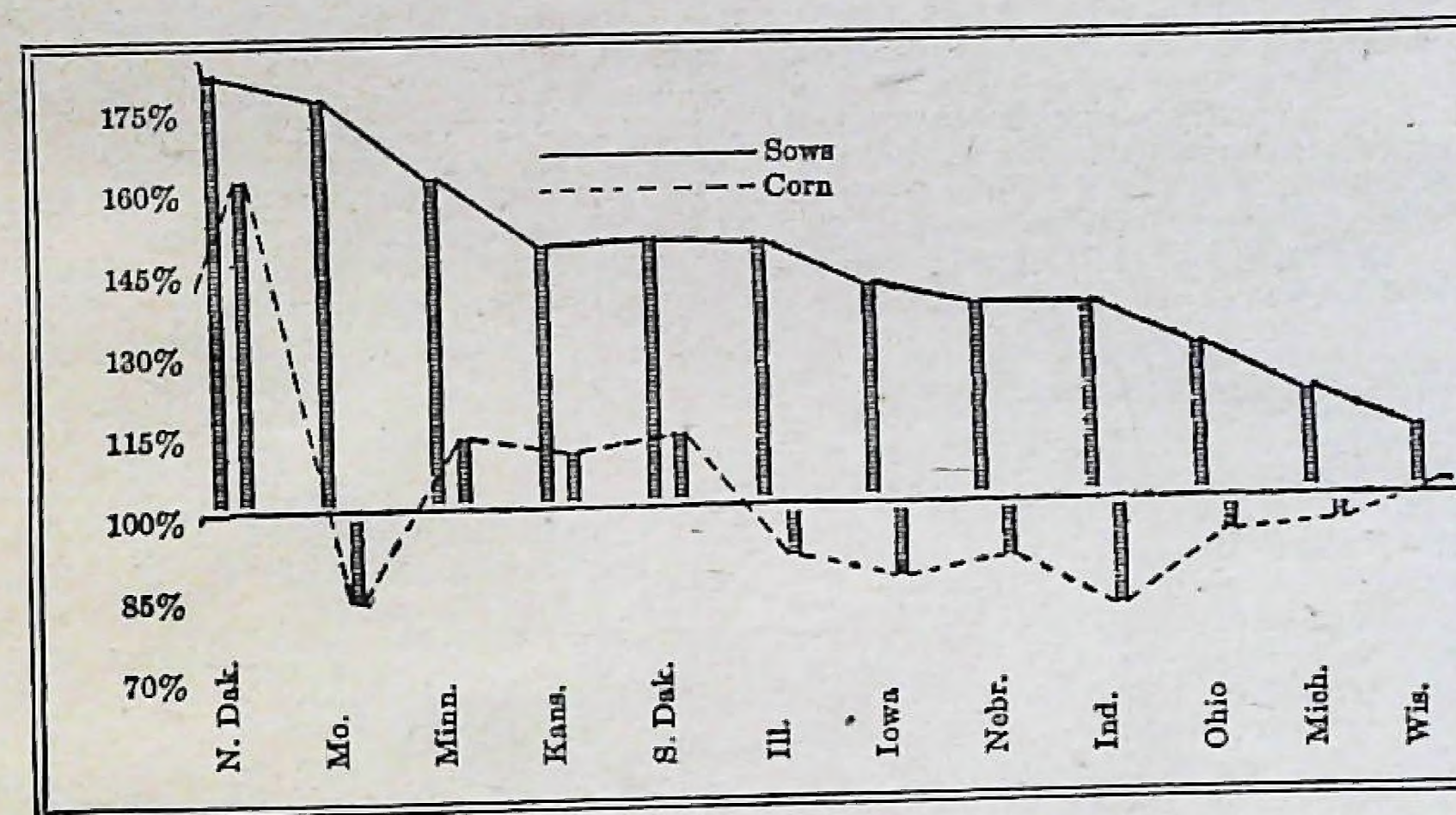
A few more cattle will be fed than last year but the increase will be small. What gain is made will be on farms where a very few cattle, less than a carload, are normally fed. Some of the good cattle states like Kansas and Missouri show a decrease in number of head to be on feed this year.

The question, "How many brood sows did you have farrow last year and do you expect to farrow this year?" revealed a condition well worth the consideration of every farmer. The replies from all sections indicate a 40.9 percent increase; in the cornbelt the increase given averaged 42.9 percent with every state showing a gain of ten percent or more.

Figures such as these bring out some vital things for farmers to think about. The swine population this year on January 1st was 56,996,000 head—what will a forty percent increase over that number do to the hog market? Undoubtedly there will be a bigger percentage loss of pigs than normal because experience teaches that where unusual numbers are farrowed proper care cannot be given and a smaller number are saved. If there is a big gain in hogs to be fed out next fall will the farmer who cuts his corn acreage this year be in better shape next year, or will he wish he had corn to feed to those pigs or to sell to the man who is feeding?

These are some of the things it is well to know and consider. Of course conditions the past few weeks, with better prices for grains, will have their effect in changing acreage programs previously laid out. These figures were given thirty to sixty days ago and brightening in market prices will undoubtedly cause many of those who reported to make changes in the 1922 crop acreage. But the number of sows to farrow, cows to be milked and cattle to be fed cannot be changed so quickly. These have already largely been determined and must be carried thru. If it were possible for each farmer to know in advance what his fellow farmers expect to do, it would enable all to plan their programs more efficiently. Figures like these bring out the importance of having some sort of careful statistical bureau for supplying these things to the farms.

Farmers will do well to insist on and give their undivided support to efforts being put forth by the American Farm Bureau Federation and other organizations to keep them supplied with up-to-the-minute figures in regard to the industry.





# THE MUSCLE SHOALS PROJECT

*A Great Project That Interests Farmers*

By A. H. SNYDER

**W**HAT to do with the partially completed dam and nitrate plant at Muscle Shoals, Alabama, is up for consideration by congress and by the people of the country. No class of citizens is more directly and vitally interested in the future of this great project than are the farmers. Fertilizer, power and transportation are the three products which may be derived from the plant when completed, and farmers are the exclusive users of fertilizers and among the heaviest users of transportation and the products which require power to manufacture.

This dam and nitrate plant was begun in 1918 by the government as a war emergency measure. Nitrates are essential in the manufacture of explosives and the enormous quantities of explosives used during the war made it necessary to provide for a certain and increased supply of nitrates. The bulk of the nitrates used in this country has come from Chili and it was not safe to depend upon a foreign country and the uncertainty of transportation for a material so essential to the prosecution of the war.

It was for this reason that the government decided to provide means for producing nitrates in this country. Muscle Shoals, Alabama, was chosen as the location which offered greatest facilities for manufacture and the work of construction was started early in 1918. With the signing of the armistice in November of that year the work was halted, as was done in the case of all war emergency measures, and the problem has been to determine what shall be done with the partially completed project.

Apparently there are three general courses which may be followed:

1. The work which has been done may be scrapped and the salvage sold as junk, as has been done with most of the war materials.

2. The government may go ahead and complete the plant and operate it for the manufacture of fertilizers and the development of hydro-electric power.

3. The incomplete plant may be sold or leased for a long period to private interests which will complete and operate it, or the government may complete the plant and then sell or lease it to private interests for operation.

The first alternative is certainly not desirable. More than one hundred million dollars of tax money has already been spent on the project and the salvage value would be so small as not to be worthy of consideration. The products which this plant can furnish are needed and it would be nothing short of gross waste to destroy the work that has already been done upon it.

The second course has been considered but offers a number of objections in the minds of a great many people. Those who oppose the entrance of the government into business see a serious objection in the precedent which would be established if the government entered into a manufacturing and commercial business of this sort.

The third method of handling the project offers many advantages and very few disadvantages. Farmers' organizations with scarcely an exception are urging congress to adopt this method and about the only opposition to it comes from the interests with which this new industry would be in some measure a competitor.

Several months ago a number of corporations and individuals were invited to bid on the proposition but the only offer worthy of consideration was made by Henry Ford and was delivered to the secretary of war in July of last year. The details of this bid were given to the public soon after it was received and since that time some three or four additional bids have been submitted. Two or three of these bids are now before congress and hearings upon them are being held.

It is not the purpose of this article to enter into the details of any of the proposals that have been submitted. The plant should be completed and the best proposition that can be obtained for completing it and operating it should be accepted. The recent National Agricultural Conference recommended the acceptance of Mr. Ford's offer and farmers' organizations are urging congress to accept it. Apparently it is the only offer made thus far that merits serious consideration.

What the completion of this great project will ultimately mean to the country, and particularly to the farmers, is difficult to estimate or forecast. It is not possible to determine in anything like a definite way the full effect that may come from a lowering of the cost of fertilizer, and it is asserted by those who

are in position to know that fertilizer can be produced by the Muscle Shoals plant, if completed, at a reduced cost.

The quantity of fertilizer used depends to a considerable extent upon the price that must be paid for it. Over large sections of the country crops can scarcely be produced with profit without the use of a certain amount of fertilizer. Both in these sections and in sections where very little fertilizer is used the cost of producing crops could be materially reduced by the use of larger amounts of fertilizer at reduced prices. Any reduction in cost, from whatever cause it may result, would induce the use of more fertilizer and this would mean both greater production and a lower cost of production. Looking many years into the future and having in mind the experience of older countries as well as the older sections of this country, one cannot help being convinced that a time will come in the not very distant future when it will be necessary to apply fertilizing materials to a large percentage of the soils in order to produce crops profitably.

The most expensive element in fertilizer is nitrogen. There is plenty of it in the air—about twelve pounds of the fifteen pounds of air resting on every square inch of the earth's surface being nitrogen. Farmers have been urged to obtain their supply from this source by growing legumes, which are the only crops that can use the nitrogen in the form that it occurs in the air. Some years ago a process was discovered whereby the nitrogen

in the air could be separated from the other elements with which it is combined by means of high-power electric currents, and then be made to unite with other elements in such a way that it could be used for fertilizer and for other purposes.

Immense quantities of electric power are necessary in the extraction of nitrogen from the air, and electric power can be developed from water power at lower cost than from any other known form of power. That is the reason for the dam in the Tennessee river at Muscle Shoals. The water power available at this point will be sufficient to supply the nitrate plant and furnish in addition a large surplus of hydro-electric power which can be sold and used for other purposes.

Phosphorus, another expensive element of soil fertility, and one that is deficient in large areas of soil, is to be found in extensive deposits of phosphate rock located in close proximity to the proposed nitrate plant. The phosphorus in the raw rock as it is mined dissolves very slowly in the soil and becomes available for the use of crops so slowly that it is desirable to treat a large percentage of it so as to make the fertilizer act more quickly. The prevailing method of treating phosphate rock is to convert it into acid phosphate by means of sulphuric acid. Equal weights of rock and sulphuric acid are mixed together in the process. As a result, a ton of the treated rock contains only about one-half as many pounds of phosphorus as a ton of the raw rock. For example, phosphate rock that is used for fertilizer contains in the neighborhood of thirty percent of phosphorus. Suppose that one hundred pounds of phosphate rock containing thirty pounds of phosphorus is mixed with one hundred pounds of sulphuric acid. There is then two hundred pounds of material but only thirty pounds of phosphorus, or fifteen pounds in each one hundred pounds of mixture.

The farmer who buys acid phosphate must pay freight on one hundred pounds in order to obtain about fifteen pounds of phosphorus, which is the real element he buys. Even with more reasonable freight rates, the cost of transporting this extra and practically useless material is an important item in the cost of phosphate fertilizer, and with the high rates which are now in effect it is of much greater importance.

It is proposed to manufacture at the Muscle Shoals plant a much more highly concentrated fertilizer and thereby greatly reduce the cost of transporting it. The plan is to combine the nitrogen taken from the air with the phosphorus contained in the phosphate rock and thereby produce a fertilizer containing both of these elements. It is estimated that such a fertilizer need not contain more than about twenty-five percent of useless or waste material as compared with about eighty-five percent in acid phosphate. The saving on transportation and bags alone would be a very large item if fifty percent or more of the bulk and weight of fertilizer could be eliminated.

In addition to the fertilizer that can be produced if this great plant is completed and put into

(Continued on page 61)

# Victrola

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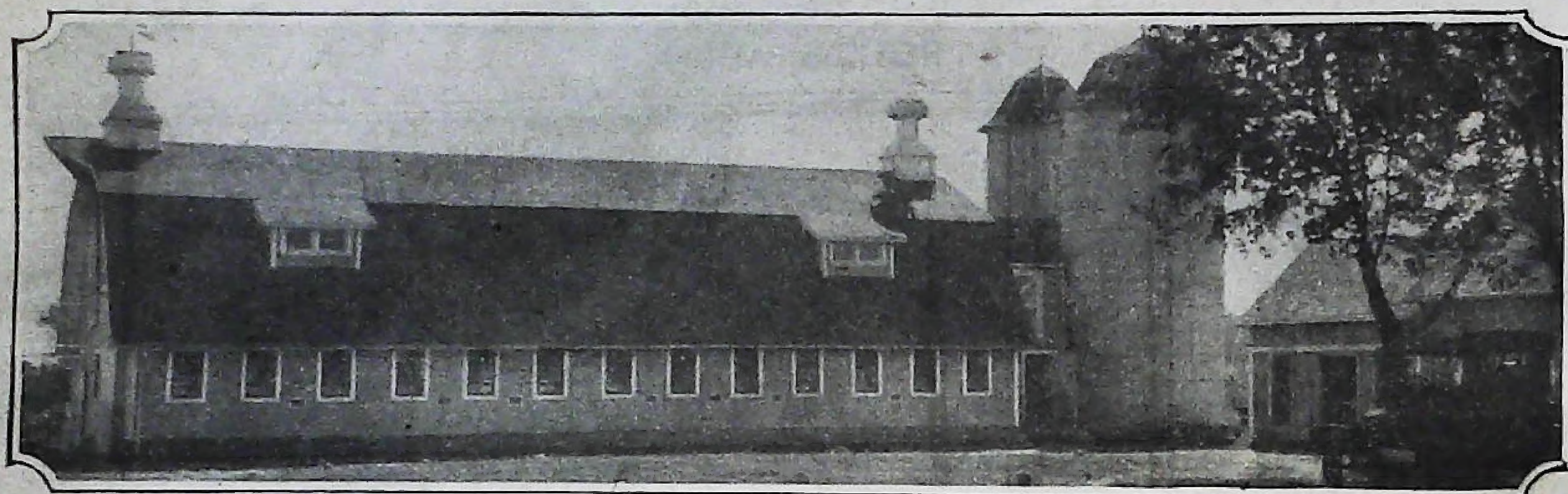
**Victor Talking Machine Company, Camden, N.J.**



# FEEDS FOR MILK PRODUCTION

*King Corn is the Most Economical Carbohydrate Feed*

By C. W. TURNER



THE downward trend of all feed prices makes a study of their selection vital from the standpoint of economy of milk production. At the same time the health and well being of the herd is dependent to no small extent upon a wise selection of feeding stuffs. A system of farming so planned that the maximum amount of homegrown feeds are utilized together with a careful selection of concentrates to balance the ration, will generally lead to the greatest profit. It has been shown in several instances, however, that it is often economical to sell homegrown grains and purchase high protein concentrates. The following discussion of corn and its by-products, embodying the results of many feeding trials will aid in the selection of feeds best suited under varying conditions.

Corn is the most important carbohydrate feed available for the average dairyman and can generally be economically included in the ration for dairy cattle. Thruout the cornbelt it furnishes the largest amount of nutrients per acre of any of the grains. While containing nearly seventy percent of carbonaceous material, chiefly starch, it is lacking in protein. Because of this fact it cannot be fed alone with economy. The proteins of the corn kernel have been studied at the Wisconsin station and have been found to contain all of the amino acids essential for

growth. The proportion of certain of them were, however, found to be too low for proper growth. The corn grain alone is lacking not only in total amount of protein but the protein is unbalanced and ill suited for rapid growth or large milk production. It was also found that its content of mineral matter was low, especially in lime and sometimes phosphorous. An abundance of the water soluble growth accessory was found to be present, but the fat-soluble was insufficient for normal growth.

In order to show that the best results from corn for milk production can be obtained only when it is properly balanced with high protein feeds, an experiment was conducted at the Illinois station in which two lots of cows were fed a balanced ration in the first case, and ground corn with corn silage and timothy hay in the second. The cows fed the balanced ration with a narrow nutritive ratio made a better return for the nutrients received than did the cows fed the unbalanced ration which had a wide nutritive ratio. There was a difference of over ten pounds in the average daily milk production of the two lots of cows. The cows fed the balanced ration kept in much better physical condition. This trial demonstrates how futile it is to expect large milk production when corn is not properly balanced with suitable protein rich concentrates and roughages.

At the Maryland station, six cows were fed during several lactation periods, alternately on a ration composed of cornmeal compared with a ration balanced with cornmeal, wheat bran, and gluten meal. The roughage in both cases was corn fodder and soiling corn. The results in this experiment again

show the unprofitableness of feeding a ration of corn not properly balanced. There were some indications that the cows fed the balanced ration kept more healthy and in better breeding form and better shape for succeeding lactation periods.

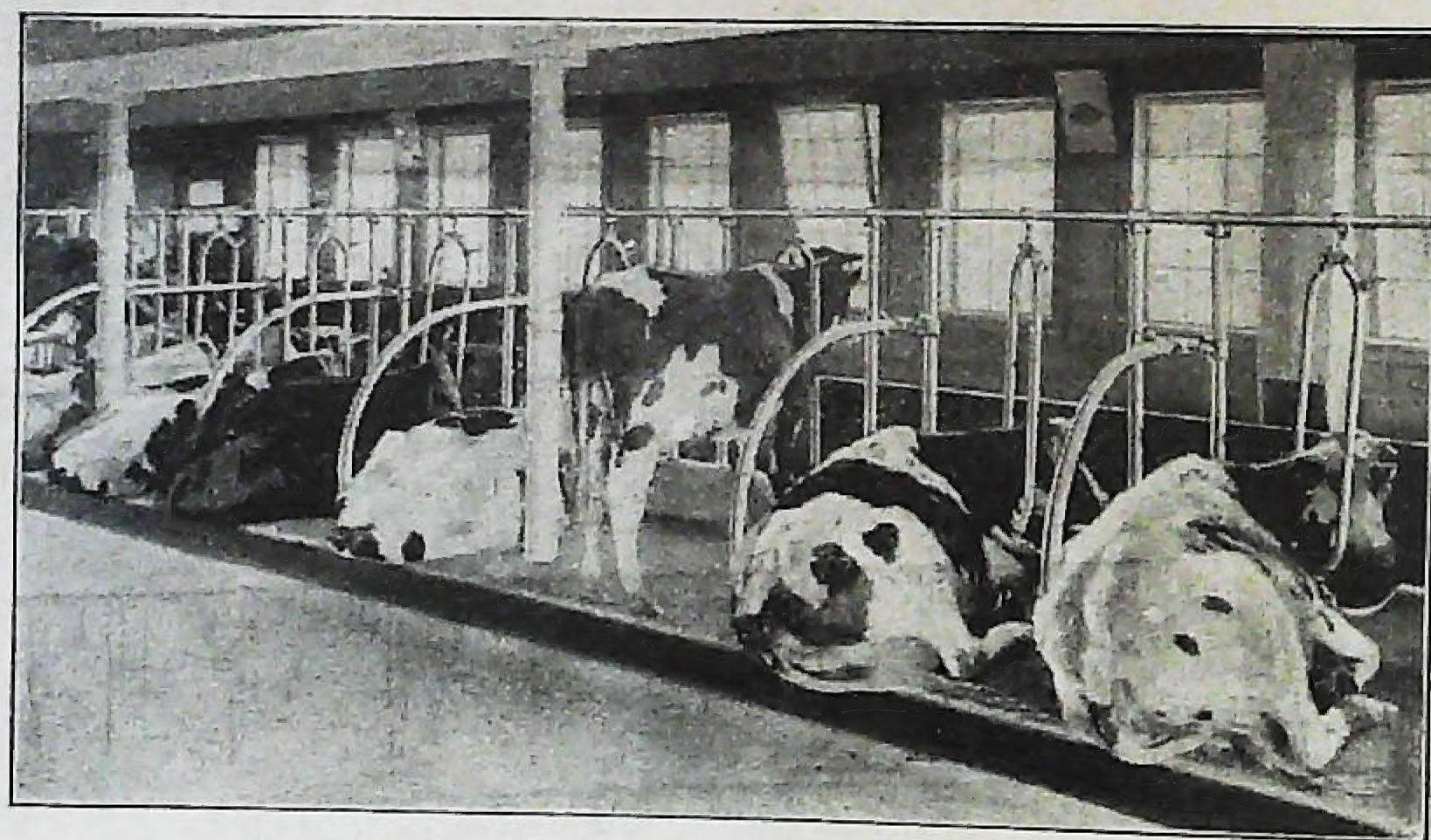
A study of the comparative efficiency for milk production of the proteins of corn and wheat was made at the Wisconsin station. A nutritive ratio of 1:8 was fed by adding gluten feed to cornmeal and wheat gluten to the wheat meal to increase the protein. Corn stover was fed as roughage. The percent of efficiency found was as follows: Milk 60, corn 40, and wheat 36. A nitrogen metabolism study with three dairy cows fed ground corn alone with clover hay and silage, was later made. The cows declined markedly in milk production. It was found impossible to furnish enough protein from this source to enable a high producing cow to maintain a heavy yield. Ground barley, oats, and a mixture of these three grains were also found deficient. They stated that undoubtedly the fact that generally in dairy practice the proteins used are of low production value and that the plane of protein intake often fed dairy cows is lower than it should be, is partly responsible for the rapid decline in milk production during the progress of lactation. Here again, the evidence points to the economy of purchasing protein

concentrates to improve the home grown rations.

Corn is generally fed as cornmeal, altho it may also be fed as corn and cob meal, the result of grinding corn and cob. If a rather heavy grain mixture is being fed the cob will aid in lightening the mixture. To show the value of grinding ear corn, the New Jersey station compared ear corn with corn and cob meal for milk production. The slightly greater value shown by the corn and cob meal

is believed to be due to its greater digestibility as 57 percent of the corn fed in the ear passed thru the alimentary tract, unchanged. In a further trial equal amounts of corn and cob meal were compared with cornmeal. Four and six-tenths percent more milk and 3.6 percent more butterfat were produced on a cornmeal ration. The corn and cob meal, however, was slightly cheaper. In a digestion trial with corn cobs, the Texas station found that they did not contain any digestible protein but the digestibility of the crude fiber and of the nitrogen free extract compared favorably with the digestibility of hays and some other roughages. The feeding value of ground corn cobs is apparently high for feed of this character, and compares favorably with prairie hay. It seems to be a better feed than has generally been supposed.

In the manufacture of corn starch after the germs and starch are separated, the gluten remains. This is commonly mixed with corn bran and sold as corn gluten feed, a protein rich concentrate. It is also rich in fat and fairly high in carbohydrates. It is a bulky feed, one quart weighing 1.3 pounds. At the Vermont station four pounds of corn (Continued on page 62)



Cows fed a balanced ration are kept in the best physical condition.

## Buying a raincoat is like buying a car

A shiny finish—comfortable cushions—these aren't enough when you buy a car. It's the name—and what the name stands for—that counts.

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**United States Rubber Company**  
New York City



# Raynsters

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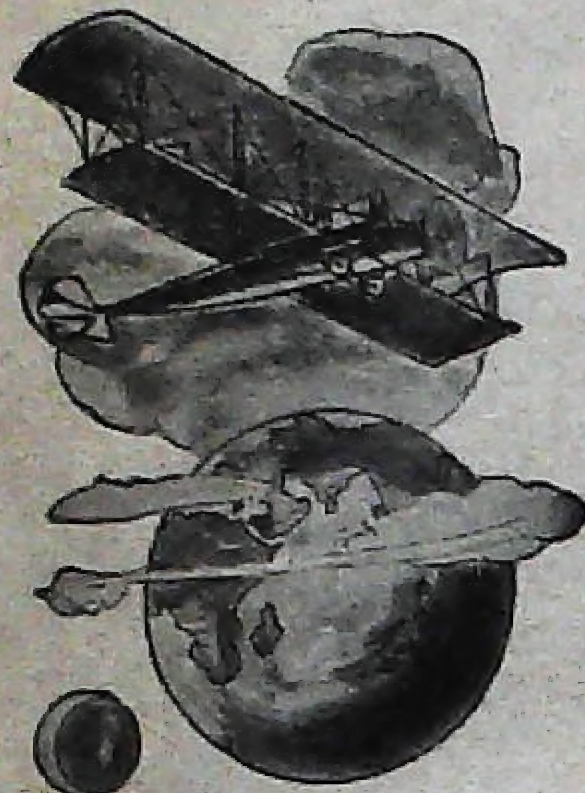
A COMPLETE LINE OF RAINCOATS—A type for every need



# BIRDSEYE VIEWS OF FAR LANDS

The City of Seven Hills

By JAMES T. NICHOLS



Nichols, the traveler, has crossed the Atlantic fifteen times and made one trip around the world. He has rambed thru more than thirty foreign lands and is still going. His stories are based on actual experience.

ONE could hardly write of Italy and leave Rome out for the story of the city of Rome is the story of Italy. The modern city as it is today contains more than a half million people. It of course contains many great buildings, the most noted of which is Saint Peter's church. The writer was more interested in the old ruins, however, than in the modern city. In the heart of the old city was the Forum, or as the word means, "A place out-of-doors." This was the great center of Roman civilization and one of the most interesting spots on the globe. Here was the "Golden Milestone" from which radiated the world-famous system of Roman roads that led to all parts of the kingdom. I rode down the great Appian Way several miles and altho it has been in constant use for more than two thousand years it is yet one of the best paved highways in the world.

This "place out-of-doors," or Forum, was an open space which formerly was used for many purposes. Sometimes it was the market place where buying and selling and bartering was engaged in by farmers, merchants and the common people. On these occasions one could buy anything from a sack of meal to a golden ornament. Sometimes it was a court of law where men accused of wrongdoing were tried and judged.

Sometimes the Forum was a great meeting place of friends and where citizens met and discussed the problems of the day. They often had meetings not unlike our chautauqua gatherings today. Sometimes it was a place where games and feasts were the order of the day. Sometimes benches were brought and plays and entertainments were given. At these times people were generally in gay holiday dress and came for rest, recreation and amusement. Later on the amusement feature developed into brutal sports and gladiatorial contests and still later on the great Colosseum was built near by.

Dean Brown of Yale University, a most careful student of history, has tersely said that the reason that Rome failed is because the people left the Forum for the Colosseum, that is they went crazy over amusements. One sometimes wonders if we in this day are not headed in the same way. Of course a certain amount of amusement and sport is right but when people leave the discussion of great problems that concern government, agriculture, labor, church, school and home, for prize fights or even baseball, it is not a good indication.

In the course of time buildings were erected around the open Forum and these became the Senate house, the Tabularium, or record building, the Rostrum, or inclosed platform where orators spoke, the Comitium, or assembly room, and the Prison. There were also built temples, arches, statues, columns, and monuments erected to the memory of famous men.

This Forum was, therefore, the great public center where announcements were made, items of news proclaimed, war declared, and at the same time market place, lecture platform and general meeting place. The first altar erected here was erected to Saturn, the god of Agriculture. The image at the altar held a sickle in its hand and was supposed to watch over the seed-time and harvest and to whom certain days, called market days, were sacred. On this altar people offered sacrifices of cakes of salted meal that their crops might be bountiful.

In the course of time the chief struggle in the Forum was between the rich and the poor. The rich men were generally from the older families and were called Patricians because the patres, or fathers, had helped to govern the nation. The poor men were generally from newer families and were called plebeians because they were the people often from other cities or conquered tribes. So the patricians thus became the governors, lawmakers and money lenders and the plebeians were the laborers, farmers and common soldiers.

In the long bitter strife the patricians fought in the Forum for power while the plebeians fought for justice. Often a plebeian who went to fight for his country would come home and

find his lands seized and his home in ruins. One day there came to the Forum an old man in chains. He was nearly starved, his body only skin and bones clothed in rags. His long beard was white and his eyes were full of suffering and despair. Some old neighbors hot they recognized this man and said, "Was not this man a brave soldier and did he not serve Rome with honor?" At this the old man, standing before them in all his wretchedness, said he was in truth the man they thought and appealed to them as Romans to help him. He showed them the scars received in more than twenty battles and the stripes on his back fresh from cruel blows. Then he told how when the wars were ended he returned to find his home in ashes, his cattle stolen and his lands unjustly taxed; how he had been forced to borrow money from a rich patrician and when he became ill and could not pay was thrown in prison from which he had just escaped, more dead than alive.

This sad story moved the common people with anger and as a great crowd had gathered in the Forum, horsemen came riding up announcing that the enemies of Rome were already nearing the gates. At the call to arms the plebeians refused to

fight, saying, with scorn, "Let the powerful patricians save Rome!" At once all was confusion in the Senate assembly and the patricians did not know what to do. Finally one of the magistrates came from the assembly saying that the senators were willing to promise protection and safety for the families and the lands of all soldiers defending Rome. At once the common people enrolled and in the battle that followed were victorious.

In the course of time, however, the word of the magistrate was not always kept and often the soldier

was not always sure of the safety of those he loved. The crisis was finally reached when Appius Claudius, a base magistrate, caused Virginia, a beautiful maiden whose father was a plebeian to be seized one morning as she

passed the Forum on her way to school. The story of the struggle and sacrifice of this beautiful girl is too long to be told here, but it caused an uprising of the common people so that they gained some power in making the laws.

Before leaving the Forum I must tell the famous story of a great disaster and its outcome. A large drain had been dug beneath the Forum years before and one day the ground fell in forming a deep abyss. As the people labored hard to fill up this hole their efforts were all in vain. It looked like the ground all around was to be swallowed up and the Forum ruined. Then the priests consulted the will of the gods but were unable to understand the message which was to the effect that the chasm could not be closed nor the state prosper until a sacrifice had been made of that upon which Rome's greatness was founded.

In the midst of the consternation and excitement a young man by the name of Marcus Curtius came forth asking, "Tell me, O men of Rome, has the nation aught of greater value than a brave man, armed in her defense?" No voice denied him and as he stood looking toward the temple he stretched forth his hands toward heaven and offered himself as a sacrifice.

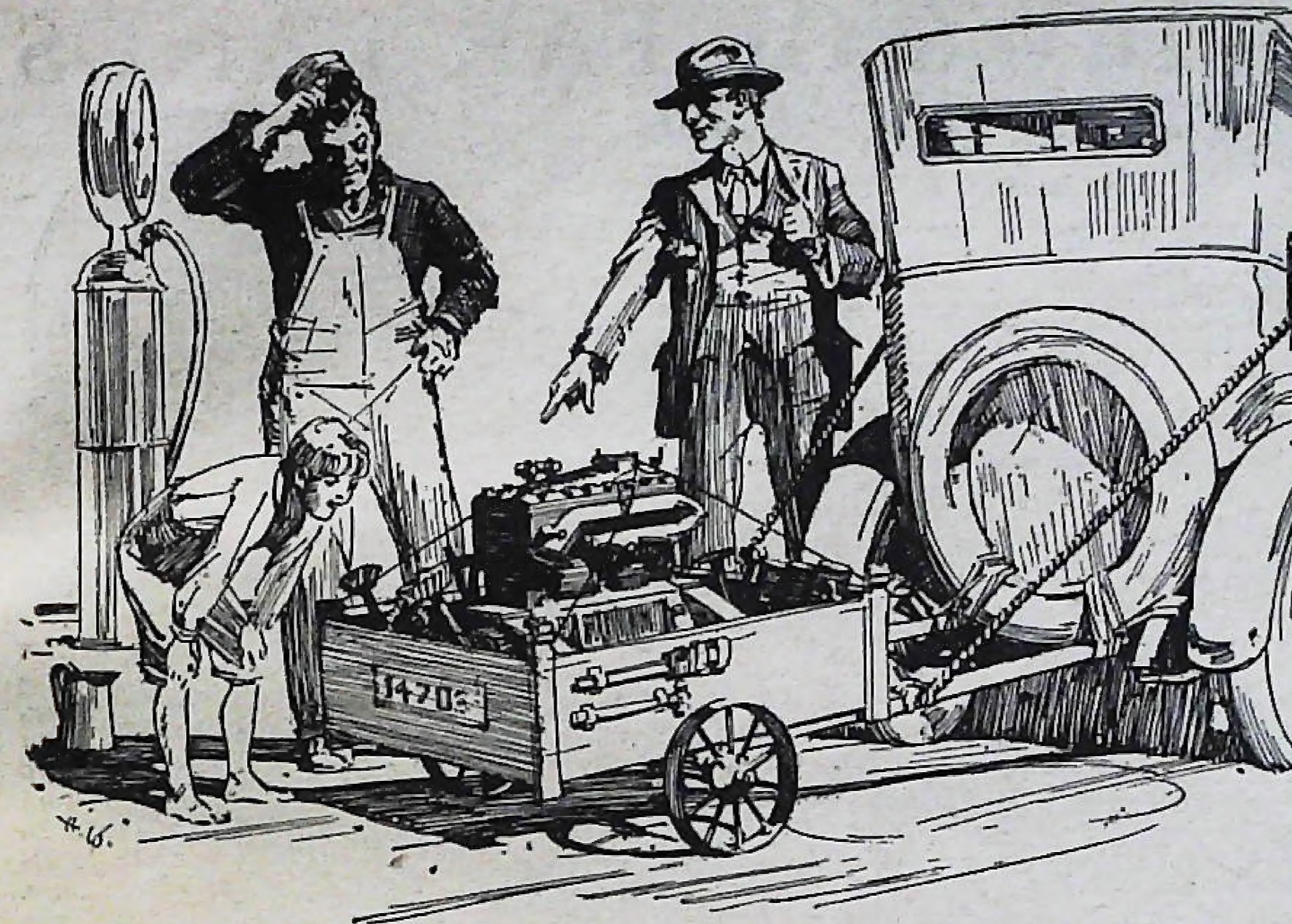
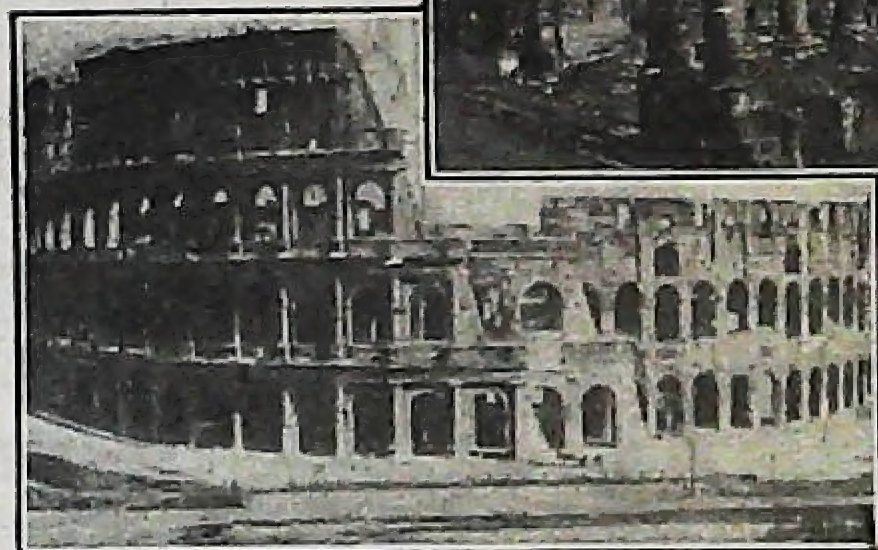
Asking that his horse be brought, this young man then put on his finest armor, mounted the horse that had been brought, and while the awestricken people stood in silence, he plunged into the abyss. The people then came and threw in over him flowers and fruits and other offerings, and according to the records, the ground immediately closed and became firm as before and the place was named for him.

As I walked about the ruins of this ancient Forum I lived over again some of the old days. While the temples are in ruins, the Arch of Titus still stands majestically on the ruins. Three different times I went to the old Colosseum which is but a few minutes' walk from the Forum. Some one has declared that this is one of the most astounding miracles of architecture that the world ever saw. This great

(Continued on page 48)



Above is a view of the Roman Forum; the picture below is a section of the Colosseum.



## "I'm Prepared for the Worst . . . Give me a Quart of Oil"

At least 50% of all serious engine troubles are traceable to careless buying of lubricating oil.

You can't dodge this fact.

There is a wide gulf between the average "pick-up" oil and Gargoyle Mobiloil.

We suggest you ask for Gargoyle Mobiloil, being particular to specify the correct grade for your car.

### How the Right oil saves money

Many farmers expect entirely too little from their lubrication.

The grade of Gargoyle Mobiloil specified for your car or tractor feeds adequately to every friction point. It protects. It seals the piston rings against blow-by of fuel and power—it saves fuel. It cuts down operating troubles. And you will be surprised at the your greater freedom from carbon.

Yes: Gargoyle Mobiloil costs a few

cents more per gallon. It costs more to manufacture. But you will see the real economy of this few cents difference after you observe the operating results.

### Not a gasoline by-product

Nine out of ten lubricating oils on the market are simply by-products in the manufacture of gasoline.

Gargoyle Mobiloil is not a by-product.

It is produced by lubrication specialists who are recognized the world over as leaders in lubricating practice. Gargoyle Mobiloil is manufactured from crude oil chosen for its lubricating qualities—not for its gasoline content. Gargoyle Mobiloil is manufactured by processes designed to bring out the highest lubricating value—not the greatest gallonage of gasoline.

### Warning!

Don't be misled by some similar sounding name. Look on the container for the correct name Mobiloil (not Mobile) and for the red Gargoyle.



# Mobiloil

Make the chart your guide

Domestic New York (Main Office) Boston Chicago Philadelphia Detroit Pittsburgh  
Branches: Indianapolis Minneapolis Buffalo Des Moines Dallas Kansas City (Kan.)

### Chart of Tractor Recommendations

(Abbreviated Edition)

How to Read the Chart:  
THE correct grades of Gargoyle Mobiloil for engine lubrication of Tractors are specified in the Chart below:

A means Gargoyle Mobiloil "A"  
B means Gargoyle Mobiloil "B"  
Arc means Gargoyle Mobiloil "Arc"

### Chart of Automobile Recommendations

(Abbreviated Edition)

How to Read the Chart:  
THE correct grades of Gargoyle Mobiloil for engine lubrication of both passenger and commercial cars are specified in the Chart below:

A means Gargoyle Mobiloil "A"  
B means Gargoyle Mobiloil "B"  
E means Gargoyle Mobiloil "E"  
Arc means Gargoyle Mobiloil "Arc"

Where different grades are recommended for summer and winter use, the winter recommendation should be followed during the entire period when freezing temperatures may be experienced.

The recommendations for prominent makes of engines used in many cars are listed separately for convenience. The Chart of Recommendations is compiled by the Vacuum Oil Company's Board of Automotive Engineers, and represents our professional advice on correct automobile lubrication.

MAKE OF AUTOMOBILE AND MOTOR TRUCKS	1921		1922		1923		1924		1925		1926		1927	
	W	S	W	S	W	S	W	S	W	S	W	S	W	S
Alfa Romeo	A	A	A	A	A	A	A	A	A	A	A	A	A	A
Alfa Romeo (1921-22)	A	A	A	A	A	A	A	A	A	A	A	A	A	A
Alfa Romeo (1923-24)	A	A	A	A	A	A	A	A	A	A	A	A	A	A
Alfa Romeo (1925-26)	A	A	A	A	A	A	A	A	A	A	A	A	A	A
Alfa Romeo (1927)	A	A	A	A	A	A	A	A	A	A	A	A	A	A
Alfa Romeo (1928)	A	A	A	A	A	A	A	A	A	A	A	A	A	A
Alfa Romeo (1929)	A	A	A	A	A	A	A	A	A	A	A	A	A	A
Alfa Romeo (1930)	A	A	A	A	A	A	A	A	A	A	A	A	A	A
Alfa Romeo (1931)	A	A	A	A	A	A	A	A	A	A	A	A	A	A
Alfa Romeo (1932)	A	A	A	A	A	A	A	A	A	A	A	A	A	A
Alfa Romeo (1933)	A	A	A	A	A	A	A	A	A	A	A	A	A	A
Alfa Romeo (1934)	A	A	A	A	A	A	A	A	A	A	A	A	A	A
Alfa Romeo (1935)	A	A	A	A	A	A	A	A	A	A	A	A	A	A
Alfa Romeo (1936)	A	A	A	A	A	A	A	A	A	A	A	A	A	A
Alfa Romeo (1937)	A	A	A	A	A	A	A	A	A	A	A	A	A	A
Alfa Romeo (1938)	A	A	A	A	A	A	A	A	A	A	A	A	A	A
Alfa Romeo (1939)	A	A	A	A	A	A	A	A	A	A	A	A	A	A
Alfa Romeo (1940)	A	A	A	A	A	A	A	A	A	A	A	A	A	A
Alfa Romeo (1941)	A	A	A	A	A	A	A	A	A	A	A	A	A	A
Alfa Romeo (1942)	A	A	A	A	A	A	A	A	A	A	A	A	A	A
Alfa Romeo (1943)	A	A	A	A	A	A	A	A	A	A	A	A	A	A
Alfa Romeo (1944)	A	A	A	A	A	A	A	A	A	A	A	A	A	A
Alfa Romeo (1945)	A	A	A	A	A	A	A	A	A	A	A	A	A	A
Alfa Romeo (1946)	A	A	A	A	A	A	A	A	A	A	A	A	A	A
Alfa Romeo (1947)	A	A	A	A	A	A	A	A	A	A	A	A	A	A
Alfa Romeo (1948)	A	A	A	A	A	A	A	A	A	A	A	A	A	A
Alfa Romeo (1949)	A	A	A	A	A	A	A	A	A	A	A	A	A	A
Alfa Romeo (1950)	A	A	A	A	A	A	A	A	A	A	A	A	A	A
Alfa Romeo (1951)	A	A	A	A	A	A	A	A	A	A	A	A	A	A
Alfa Romeo (1952)	A	A	A	A	A	A	A	A	A	A	A	A	A	A
Alfa Romeo (1953)	A	A	A	A	A	A	A	A	A	A	A	A	A	A
Alfa Romeo (1954)	A	A	A	A	A	A	A	A	A	A	A	A	A	A
Alfa Romeo (1955)	A	A	A	A	A	A	A	A	A	A	A	A	A	A
Alfa Romeo (1956)	A	A	A	A	A	A	A	A	A	A	A	A	A	A
Alfa Romeo (1957)	A	A	A	A	A	A	A	A	A	A	A	A	A	A
Alfa Romeo (1958)	A	A	A	A	A	A	A	A	A	A	A	A	A	A
Alfa Romeo (1959)	A	A	A	A	A	A	A	A	A	A	A	A	A	A
Alfa Romeo (1960)	A	A	A	A	A	A	A	A	A	A	A	A	A	A
Alfa Romeo (1961)	A	A	A	A	A	A	A	A	A	A	A	A	A	A
Alfa Romeo (1962)	A	A	A	A	A	A	A	A	A	A	A	A	A	A
Alfa Romeo (1963)	A	A	A	A	A	A	A	A	A	A	A	A	A	A
Alfa Romeo (1964)	A	A	A	A	A	A	A	A	A	A	A	A	A	A
Alfa Romeo (1965)	A	A	A	A	A	A	A	A	A	A	A	A	A	A
Alfa Romeo (1966)	A	A	A	A	A	A	A	A	A	A	A	A	A	A
Alfa Romeo (1967)	A	A	A	A	A	A	A	A	A	A	A	A	A	A
Alfa Romeo (1968)	A	A	A	A	A	A	A	A	A	A	A	A	A	A
Alfa Romeo (1969)	A	A	A	A	A	A	A	A	A	A	A	A	A	A
Alfa Romeo (1970)	A	A	A	A	A	A	A	A	A	A	A	A	A	A
Alfa Romeo (1971)	A	A	A	A	A	A	A	A	A	A	A	A	A	A
Alfa Romeo (1972)	A	A	A	A	A	A	A	A	A	A	A	A	A	A
Alfa Romeo (1973)	A	A	A	A	A	A	A	A	A	A	A	A	A	A
Alfa Romeo (1974)	A	A	A	A	A	A	A	A	A	A	A	A	A	A
Alfa Romeo (1975)	A	A	A	A	A	A	A	A	A	A	A	A	A	A
Alfa Romeo (1976)	A	A	A	A	A	A	A	A	A	A	A	A	A	A
Alfa Romeo (1977)	A	A	A	A	A	A	A	A	A	A	A	A	A	A
Alfa Romeo (1978)	A	A	A	A	A	A	A	A	A	A	A	A	A	A
Alfa Romeo (1979)	A	A	A	A	A	A	A	A	A	A	A	A	A	A
Alfa Romeo (1980)	A	A	A	A	A	A	A	A	A	A	A	A	A	A
Alfa Romeo (1981)	A	A	A	A	A	A	A	A	A	A	A	A	A	A
Alfa Romeo (1982)	A	A	A	A	A	A	A	A	A	A	A	A	A	A
Alfa Romeo (1983)	A	A	A	A	A	A	A	A	A	A	A	A	A	A
Alfa Romeo (1984)	A	A	A	A	A	A	A	A	A	A	A	A	A	A
Alfa Romeo (1985)	A	A	A	A	A	A	A	A	A	A	A	A	A	A
Alfa Romeo (1986)	A	A	A	A	A	A	A	A	A	A	A	A	A	A
Alfa Romeo (1987)	A	A	A	A	A	A	A	A	A	A	A	A	A	A
Alfa Romeo (1988)	A	A	A	A	A	A	A	A	A	A	A	A	A	A
Alfa Romeo (1989)	A	A	A	A	A	A	A	A	A	A	A	A	A	A
Alfa Romeo (1990)	A	A	A	A	A	A	A	A	A	A	A	A	A	A
Alfa Romeo (1991)	A	A	A	A	A	A	A	A	A	A	A	A	A	A
Alfa Romeo (1992)	A	A	A	A	A	A	A	A	A	A	A	A	A	A
Alfa Romeo (1993)	A	A	A	A	A	A	A	A	A	A	A	A	A	A
Alfa Romeo (1994)	A	A	A	A	A	A	A	A	A	A	A	A	A	A
Alfa Romeo (1995)	A	A	A	A	A	A	A	A	A	A	A	A	A	A
Alfa Romeo (1996)	A	A	A	A	A	A	A	A	A	A	A	A	A	A
Alfa Romeo (1997)	A	A	A	A	A	A	A	A	A	A	A	A	A	A
Alfa Romeo (1998)	A	A	A	A	A	A	A	A	A	A	A	A	A	A
Alfa Romeo (1999)	A	A	A	A	A	A	A	A	A	A	A	A	A	A
Alfa Romeo (2000)	A	A	A	A	A	A	A	A	A	A	A	A	A	A

# VACUUM OIL COMPANY



## GOLDEN MANURE

*It's the Farmer's Most Profitable Crop*

By CLIFFORD FARMER



WE farmers too often forget the value of the commonplace things, the things with which we are most familiar, because we cannot reckon them in terms of dollars and cents. They cannot be taken to market any time we choose and receive cash in exchange. One of these is barnyard manure, the farmer's best friend and most valuable crop.

As a boy I heard an oft-quoted story in which a preacher came upon two boys engaged in manure hauling. "Do you know that there is gold in that stuff, my son?" he said. The lad addressed, of mischievous nature, held up a wet, nasty forkful and said, "Pick out a piece of it for me then." At this point the hearers would always laugh, but the story has always remained in my memory. Indeed there is gold in manure and it does not take a mining engineer to get it out either. The soil is the mint that will turn it into dollars and cents if the farmer will put it where it can be gotten hold of.

If you do not believe manure is golden, just read the following:

"According to recent statistics there are in the United States in round numbers, 19,500,000 horses, mules, etc., 61,000,000 cattle, 47,000,000 hogs and 51,600,000 sheep. Experiments indicate that if these animals were kept in stalls or pens throughout the year and the manure carefully saved, the approximate value of the fertilizing constituents of the manure produced by each horse and mule annually would be \$27, by each head of cattle \$20, by each hog \$8, and by each sheep \$2. The fertilizing value of the manure produced by the different classes of farm animals in the United States would therefore be for horses, mules, etc., \$520,500,000; cattle, \$1,220,000,000; hogs, \$376,000,000, and sheep, \$103,200,000, or a total of \$2,225,700,000. The estimates are based on the values usually assigned to phosphoric acid, potash and nitrogen in commercial fertilizers."

A ton of average mixed manure contains about five pounds of phosphoric acid, ten pounds of nitrogen and ten pounds of potash, worth according to prices quoted on commercial fertilizers about \$2.25. But, due to neglect, improper practices, etc., a great percent of the value is lost on the vast majority of American farms.

On many farms very little livestock is kept and what manure they produce is wasted. If any fertility is added to the soil it is thru the use of commercial fertilizers, purchased at high prices. I can point out over the country strawstack after strawstack in the wheat fields that have been allowed to stand without being scattered or used for bedding. Many farmers make a practice of burning the straw or else plowing around it for the succeeding crop. I have in mind one field that has been in wheat since I can remember that has eight stacks of straw in it and the farmer has allowed his stock to go without bedding, making scarcely any manure, and each year he has purchased commercial fertilizer. The farmer that makes this a practice is not to be condemned but should be enlightened, both for his good and the country's.

Few farms produce the amount of manure they should and practically on all of them more or less of it is wasted. Authorities vary on the amount wasted in the United States; some say one-half, some one-third, but, even if only one-third is wasted, according to the figures I have quoted above, it runs up to a huge sum—\$741,900,000, enough to keep up our great army and navy, even if it were not reduced.

### Cause of Losses

Losses in manure are due to several things. Most of us realize that the liquid part is the most valuable. In horse manure the liquid part contains two and one-half times as much nitrogen, the same amount of phosphoric acid but five times as much potash as the solid part contains. In cow manure the relation is about the same, except that there is fourteen times as much potash in the urine as in the solid. Another thing—plantfood in the wet part is of such a nature that it is much more readily available to plants.

Another great loss comes from leaching; that is, exposing the manure to rain. It is not an uncommon sight to see manure piled out along the side of the barn under the eaves where the water can soak thru to the very best advantage and waste almost all of the valuable constituents of the liquid manure. The farmer is practically throwing away his time when he

follows this practice. An experiment conducted by the New Jersey experiment station where samples of manure were exposed to the weather showed that over sixty percent of the chemical contents, the parts available to soil fertility, were lost after four months' exposure. In many cases stock, especially cattle, are fed outside in open lots and often on hillsides where the rain washes the manure away as fast as it is made. I know a livestock farmer who last year shipped in twenty carloads of stockyard manure. I have been in his feedlot many times. It is on a steep hillside sloping to the south and at the foot of the hill there is a little creek fed by a big spring just above. I am sure more than twenty carloads of manure washed down that little creek last year. Leaching takes away the best part of the manure because the nitrogen lost is in a form more available to the plant.

Another source of loss is fermentation. Every farmer has experienced smarting of the eyes and the odor of ammonia when hauling manure on a warm day, especially when in a close barn. This is nitrogen escaping. When thrown in a loose pile it will heat, becoming white in spots. Experiments have shown that from 50 to 80 percent of the nitrogen is lost in heating.

### Value of Manure

No matter how rich the soil may have been years of careless handling will make it lose its productiveness. If grains are grown without rotating with clover and other leguminous crops, the soil will become less and less fertile until in time it will not pay to farm it. In some way the plantfood removed by crops must be returned. Commercial fertilizers will help for a time but even their use for a long period will not result in returned productiveness, because the humus supply will become exhausted. Then it becomes necessary to either let it "lay out" and weeds renew the humus, to grow a legume or to use barnyard manure. The two latter methods are the most practical. Even with a leguminous crop manure may be used to great advantage.

The farmer who begrudges the time required to haul manure and buys commercial fertilizer to take its place, is allowing a leak that he can well afford to stop. Manure is valuable. If a ton is worth \$2.25 we cannot afford to waste it. The Ohio experiment station conducted experiments along this line for a period of fourteen years beginning with 1900 and it was found that the average increase in crop value for each ton of manure used was \$3.31. And the effects of its use show for many years, too.

A few years ago a rather thin, rundown farm of 160 acres in our community changed hands. The purchaser advertised that he wanted to buy all the corn and hogs he could get. He soon had the farm covered with hogs and feed pens and self-feeders. He moved the feeders about until the whole farm was very liberally covered with hog manure. He told me that he made some money on his feeding operation but that the greatest value was the increase in soil fertility. At present this farm is pointed out as one of the richest in the country. I have heard successful livestock feeders say that they figured the manure worth at least the time spent in caring for the stock that made it.

One of the best signs of a wideawake, prosperous farmer is a well-used manure spreader. Manure is never so valuable as when fresh and should be hauled out every few days, or at least once a week. When spread out evenly over the field there is little loss from heating and the liquid part goes into the soil returning the highest value.

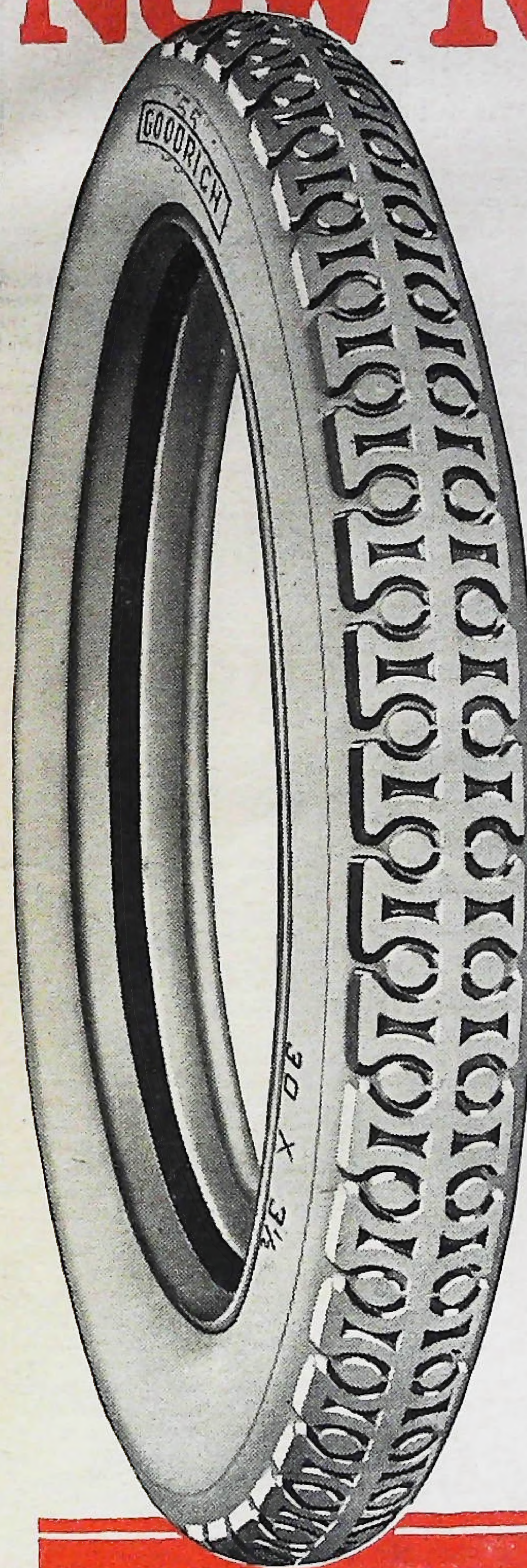
There is but one way to apply manure and that is with a good spreader. The old way of hauling into the field and throwing it out in piles was a very poor practice; much of it was lost and it was scattered unevenly at best. I have a page in my farm record headed "Manure Account." Every day that I haul manure I write the number of loads hauled and where used, as "ten loads, alfalfa." In this way I know at the end of the year just how much has been produced, and it is an encouragement to make all the manure possible.

Let the slogan of every farmer be: Produce, save and apply all the manure possible—it is golden.

# Now Ready!

## Goodrich "55" CLINCHER FABRIC TIRE

### The NEW 30x3½ for \$10.90



HERE is a *real* tire of *real* quality, at a price most remarkably low. It has everything that you demand—construction, appearance, long life, low price.

*It's a GOODRICH—Great Value!*

Made with all the skill of Goodrich, of high-grade quality throughout and perfected with its scientifically constructed, anti-skid tread of thick, tough, specially-compounded rubber.

Ask your dealer to show you this remarkable tire. Remember the name—Goodrich "55"—price \$10.90. Also made in 30 x 3 size.

THE B. F. GOODRICH RUBBER COMPANY  
Akron, Ohio

HOME OF THE SILVERTOWN CORD

# Goodrich "55"

## The Tire for Small Cars

*—Goodrich Tires give longest service with Goodrich Tubes*





## A Friend in Need!

Last tube punctured—patches won't stick—you're ready to start home on the rim. Then along comes a helpful friend and shows you how to vulcanize that puncture for good in five minutes. He'll tell you that he wouldn't take ten dollars for the feeling of security his Shaler Vulcanizer gives him and advise you to get one at the next garage or accessory store you pass. You'll do it, and next time the emergency comes you'll thank your lucky star that you were prepared.

**Costs Only \$1.50**

*Slightly higher cost of Denver and in Canada*

Vulcanizes boots, rubbers, gloves, coats, etc. No gasoline. Each Patch-&-Heat Unit contains its own fuel. A match is all you need.

**C. A. SHALER CO.**

3001 Fourth St., Wauwatosa, Wis., U. S. A.



## CENTAUR SMALL FARM TRACTOR

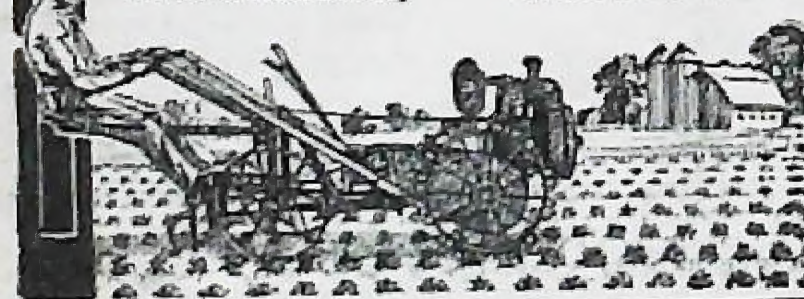
Displaces the Horse on the small farm. Pays for itself in the saving of time, labor and horse feed. Makes the hard jobs easy. "New Way" Air Cooled Motor. Hyatt Roller Bearing Transmission. 13 inches axle clearance.

Plows 7 Inches Deep in Clay Sod Riding Attachment for Harrowing, Dragging, Planting, Cultivating, Mowing, etc. A portable Power Plant for Sawing Wood, Grinding Feed and doing the many power jobs on the small farm. Costs only \$ to 10c per hour to run.

**Has A Reverse**

3 years successful performance has proven the CENTAUR the most economical, reliable and efficient small tractor made. L. B. E. R. A. L. TERMS. Write today for our special proposition.

**The Central Tractor Co.**  
13 Central Ave., Greenwich, Ohio



## Rio Grande Valley Texas

Irrigated land grows corn, alfalfa, oranges. Rich soil, fine climate, easy terms. Consider trades. LINGENBRINK, MERCEDES, TEXAS



## TEST ROWS FOR SEED CORN

"It is within the power of any farmer to increase gradually his yield of field corn thru the use of test rows planted year after year from selected ears," states a Wisconsin farmer who has been following this practice for twenty years. "These rows may be planted in any place about the farm that is out of the reach of cross fertilization. I have found, however, that seed will mix as far as forty rods.

"In starting the test row system, a dozen ears of the best seed should be selected. One should make sure, of course, that the seed is of high germinating power. Each ear is used in the planting of a separate row. At the end of the season the best ears are chosen from the rows that show the highest yield and these ears are used the following season, an ear to a row, in planting about double the number of test rows. At the same time the balance of the seed from the high yielding rows is used for general seeding as far as it will go. Carried on year after year this method will raise the average yield per acre in a very marked way. My method has been to increase the number of test rows until I was certain of enough seed from them for general planting. Only the best ears from the high scoring rows have been used.

One of the things that any grower discovers on following this plan is that different ears from the same row show quite marked variation in yield, yet by eliminating the seed from poor yielding rows the general average is bound to be upward as the years go on. I have in my own case increased my average yield on the whole farm by ten bushels to the acre in the past five seasons. Another thing one will learn by using the test rows is that it is not possible to tell the best producing ears by appearance alone. This is virtually what the farmer depends on when he goes thru his field in the fall picking seed ears. I recall one especially fine looking ear that I used in a test row simply because I had never seen so perfect an ear, and I have been judging corn ever since my father showed me how when I was a boy. This ear only made thirty-eight bushels to the acre whereas the average of the other test rows that season was eighty-five."—O. C., Ill.

## WASTED FERTILITY

There is no question but that rotted manure possesses advantages not held by fresh manure. It is a gain, however, that is achieved only at considerable loss. Rotted manure gives quicker results and is therefore to be preferred in gardening and trucking operations where much depends upon rapid growth and early maturity. Truck gardeners place great store on "well rotted manure," but it does not follow that in dairy farming its use is desirable. A ton of rotten manure may represent anywhere from a ton and a half to two tons of fresh manure, depending on how long the rotting has been going on. Since rotting cannot take place without a loss of fertility elements, it follows that the ton of rotted manure represents a waste of fertility equal to that held in from half a ton to a ton of fresh manure. This is justifiable, no doubt, in operations which center in the growing of vegetables for early market, but if rotted manure should be utilized the country over in general farm practice it would result, of course, in a staggering loss. As it is, the loss in American soils thru the improper handling of stable wastes amounts probably to something over \$50,000,000 a year. This, surely, is enough of a tax to pay for our negligence and lack of care.

For purposes of dairy farming the best

## Don't Cuss Your Ford If It "Misses"

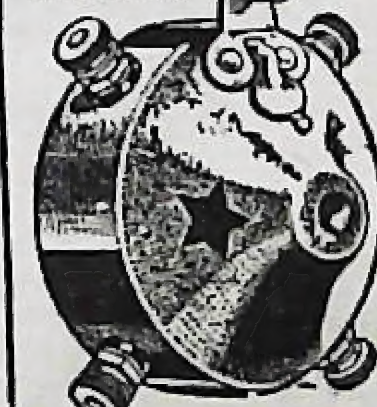
Do Something—Read the Book "Missing," hard starting, back-firing, lack of pep and power—in fact most so-called "Ford engine" troubles are due to faulty timing—the remedy is a



## Red Star Timer

FOR FORD CARS-TRUCKS AND TRACTORS

\$1.80 each. Incomparably fine in quality! No Standard and time-proved construction. No "Trick" or experimental features. Accurately built—inspected 9 times—to give sure-firing and long service. ROLLER ASSEMBLY is highest quality ever put in a timer. Roller, Look for the Red Star on the shell



—Your protection against inferior timers

Write for Booklet—It's Free Learn how much time, money, trouble a truly accurate timer will save you. AUTO COMPONENTS, INC., Dept. 801 1721 Prairie Ave., Chicago Pacific Coast Sales Office: 1426 Larkin St., San Francisco, Calif.

## Auto Owners WANTED!



To introduce the best automobile tires in the world. Made under our new and exclusive Internal Hydraulic Expansion Process that eliminates Blow-Out—Stone-Braise—Rim-Cut and enables us to sell our tires under a

**10,000 MILE GUARANTEE**

We want an agent in every community to use and introduce these wonderful tires at our astonishingly low prices to all motor car owners.

Write for booklet fully describing this new process and explaining our amazing introductory offer to owner agents.

**Hydro-United Tire Co.**  
Dept. 158 Chicago, San Francisco, Portland, Pa.

## BREAKS WORLD'S RECORD

At Minnesota Land Clearing Demonstration ONE man pulled 64 stumps in 3 hours with his Martinson Wheelbarrow Stump-Puller. Light, speedy, powerful. Push it around like a wheelbarrow.

Clear your own land without paying high wages for help. The

**MARTINSON WHEELBARROW STUMP-PULLER**

is guaranteed. Try it 10 Days Free. If not as represented, just return it and the deal is off. Sold on terms so easy that you will never miss the money. Don't fail to write us.

Martinson Mfg. Co. 801 Lincoln Building Duluth, Minn.

Write for full particulars

place for manure to rot is not in the barnyard but under ground in the open field. In this way the loss which is always incidental to the handling of manure is reduced to the lowest possible point. The two sources of loss in manure which is exposed in the open yard are leaching and heating. Both of these are eliminated when manure is taken directly to the fields either after every day or every few days—the oftener and more regularly the better. It is not necessary to plow it under at once, especially if a spreader is used in distributing it. Manure which is spread in a thin layer on the surface of the open field loses practically none of its fertility either in case of rain or drought. It cannot heat, for the layer is too thin and direct sunlight kills the bacteria which cause heating. Fertility is not lost thru leaching, for the soil absorbs all the plant-food that is washed out. If it dries out, it loses nothing but moisture.

Hand spreading and the dumping of manure in piles in the field will not accomplish what machine spreading will do in the way of checking loss in fertility. The pile of waste in the open field serves little if any better purpose than tho it stood in the barnyard. It will heat in the same way. Leaching carries the fertility into the soil, to be sure, but in so concentrated a form as to prove detrimental. So far as cropping is concerned much the same can be said of hand spreading, tho this is better than allowing manure to lie in piles in the field. Hand spreading distributes the waste unevenly, lumps and clods in one place and other spots untouched. Uniform spreading with a machine accomplishes much for the soil. It also conserves as indicated, fertility which otherwise would be wasted. And when waste is plowed under it decomposes right where Nature intends it shall decompose if it is to give the best possible account of itself. —O. C., Ill.

## FARMERS GRINDING THEIR OWN LIMESTONE

Excessive shipping cost and long hauls from the freight stations have not prevented Missouri farmers from increasing their use of limestone for soil improvement. A few portable limestone crushers have long been in use in that state, but it is only within recent years that there has been much real activity toward producing agricultural limestone on the farm.

In the state of Missouri Mr. Schowengerdt reports that more than twenty-five communities installed limestone pulverizers in 1920, while in the last year, 1921, this number of newly started pulverizers went over seventy, so that now there are about one hundred and fifty farmer-owned crushing plants in the state.

These facts show clearly that farmers are beginning to appreciate the good opportunity there is for the profitable use of the portable pulverizer in a community where a good grade of limestone is available, and where the long haul from the railroad station would make the cost of limestone from commercial quarries too high. Under such circumstances, a small pulverizer with proper management is succeeding and helping Missouri farmers in many sections to get their limestone at a reasonable cost.

The use of the small pulverizers will increase in districts where these conditions exist, for farmers are finding out for themselves and demonstrating carefully that they can quarry, grind and spread limestone at a cost low enough to give good profit even in the face of present prices and labor costs.—W. A. A., Mo.

Most people are more or less annoyed by thunder storms and lightning. There is a lot of satisfaction in having the buildings well protected with good lightning rods because then one does not need to worry about the danger of lightning.

# FISK TIRES

## Red-Top sales increased five-fold on merit alone

In a mountainous region of a Southern state—where there is not a single good road—a group of counties with flinty shale, dirt and raked highways—the Fisk Red-Top tire has increased in sales five-fold in three years.

Car owners in that locality were compelled to count the cost every time they bought a tire.

They bought Red-Tops in the hope of overcoming the tire troubles and the short life inseparable from driving where good roads have not yet been built.

Their experience with Red-Tops, even with what our advertising claimed for them, was a joyful surprise.

And the response of the drivers in these backwoods counties of a mountain country was to equip with Red-Tops to the exclusion of other makes, because they found them far longer-lived and strikingly more economical.

They stood up and gave long mileage on roads which soon ground up and tore ordinary tires to pieces.

This is only one of the many clear cases where Red-Tops, on merit alone, won against all competition.

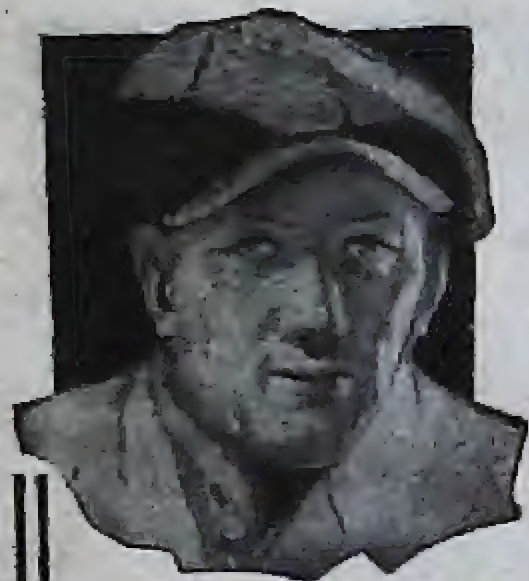


Comparison tells the story

Time to Re-tire  
(Buy Fisk)

Trade Mark Reg. U. S. Pat. Off.





## Make Your Flivver a Ford Again

Your car! Once it had power to spare it scampered up steep hills on high gear. It scurried through mud and sand. It overcame obstacles that drivers of many other cars chose to avoid. It was a Ford! Is it a real Ford today—the most powerful car in the world per pound of weight? Or has it lost some of its power and vigor through months of hard work? Mechanics—both amateur and expert—know that the difference between a Flivver and a Ford is often only a new timer—a good, dependable, proved-quality timer—

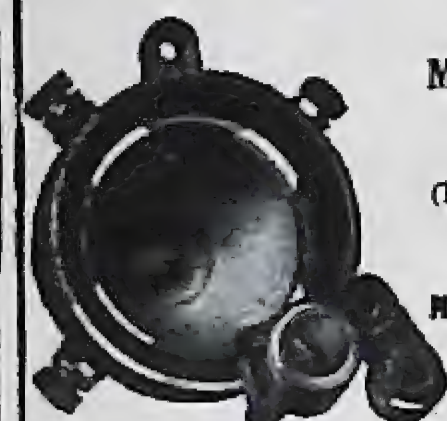
## MILWAUKEE TIMER for FORDS

No part of the power plant is more vital to Ford performance than that little "sparker" hidden away at the front of the engine.

If it delivers hot, uniform, rightly-timed sparks to coils and plugs, your Ford starts easily and pulls steadily, with a world of power. That is the Milwaukee Timer's job—and a million users know its faithful work.

Simple, sensible design, with finest materials and workmanship, have made this the standard replacement timer of the world. One in every three Fords is Milwaukee-Timed today. Yours should be!

Sold by garages, auto supply and hardware dealers everywhere—for \$2.00.



Milwaukee Motor Products, Inc.  
(Formerly Milwaukee Auto Engine & Supply Co.)  
Milwaukee, Wisconsin

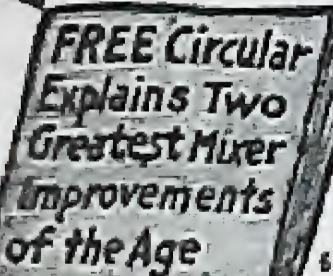
By a special method (patent applied for) the contacts are sealed and anchored in their machine-cut grooves, making this timer "short-circuit-proof."

## Write Today

The unparalleled improvements of the Gilson place it at the head of all low-priced mixers. Patented Reverse Unloading Gear and Curved Blades are the greatest discovery in mixer history. WE PROVE IT to you. Greater speed, easier work, longer-lasting concrete. A positive world beater.

## Gilson Prices Cut

We meet them all with rock-bottom prices, 30 day free trial and easiest terms you ever saw. Your mixer will pay for itself. If it is not the handiest, quickest, best mixer you ever saw, send it back. Don't fail to get the Gilson proposition. Cash or time payment. Write TODAY.



Gilson Mixer Co.  
619, 7th Ave., West Bend, Wis.

**OHIO FARMS** MASTERS Big Farm Catalog is just out. Free state map, 600 best bargains in twenty counties. H.H. Masters Farm Agency, Cambridge, Ohio

## OUR CRIPPLED CHILDREN

There is an old saying, you never miss the water till the well goes dry. That is true in many things. As long as we have our right thumb we think nothing of it, but let it get out of commission then it seems that everything we do needs that thumb. We who are whole need no physician. We cannot wholly sympathize with the cripples unless we have at some time been a cripple too. They feel keenly what never comes to our attention. Here is a letter that explains their side of the case:

"Enclosed find a tiny offering to the Crippled Children's fund. I am sorry that I cannot make it a million times larger for if there is a work in all the world that is worthy of help, it is this that you are doing. No one who has a sound body can realize the agony we 'branded' ones endure. The stare of curious people, the brutally frank remarks of little children, are like the lash of a stinging whip. You may not know it, but at night when others sleep the sensitive cripple lies with eyes wide and tear filled questioning 'Why? Why must it be?' Can you wonder if they doubt the love of the Maker? Blessings on you and your noble work forever."—E. R. H., Mo.

I have several letters like that. The crippled child is tormented by the unkind, unthinking remarks or glances of others. A well, whole child is sensitive to these things more than adults, but a cripple suffers unknown agonies. So if we can relieve any of these sufferers and put them on equal footing with other children we have done a great work.

Dr. Coons reports Ethie and Alma as doing well. Alma's back is being straightened gradually, while Ethie has gotten so she can walk a little without crutches. Both girls write similar reports. They are well cared for at the mission. A letter from there says the girls are "good girls."

Letters from Myrtle and also from Dr. Rogers say that she can now walk several steps without crutches, which she was not able to do before. This is remarkable because she has not had autohemetic treatments long. It takes a long time usually to get to the bottom of a chronic disease such as she has. We hope for her continued gain. Alma and Ethie went to the train to meet Myrtle when she arrived in Chicago. Ethie wrote that Myrtle had no smile when she first came. She puts it thus: "I sure hope she can be helped some way, poor girl. Dad (the girls call me dad), she was somewhat like me. She did not have a smile on her face. But believe me you should see me now, and it is all because of you and Dr. Coons that put the smile on my face."

If we can so live that we put the smile on sad faces we need not worry about where we will spend eternity. The good that each contributor to the Crippled Children's fund does can never be measured in any way, nor rewarded by any form of medal. The smiles of the cripples helped must be our reward. Who will invest in some smiles?

I have seen lots of little cripples before they got any treatments. Their faces are old and solemn. One will overguess their ages nearly ten years. But after they have begun to see the results that mean a cure then they begin to smile and their faces lose that old hard look of suffering. They soon become playful and happy for their associates are all cripples too, so that no one makes fun of them.

Let me urge every reader to be very considerate of every person who has any physical blemish or deformity. They cannot help it. They suffer enough without bearing the taunts of others. The



## Don't Leave the Road

**FORD OWNERS**—why take chances with a weak steering gear. You can now have a worm type, such as used on all other cars. Enables you to steer safely and easily out of ruts, thru mud, sand, snow; prevents "going over center;" holds car on center-crowned road; prevents front wheels cramping when you hit a bump or other bad place.

The **SPRAGUE WORM STEERING GEAR** is designed expressly for Fords. Easy to attach or remove; outlasts car; inexpensive. Thousands in use. Many owners wrote, "Wouldn't drive Ford now without it."

Not only makes a Ford far safer but also absorbs vibration, shock and strain on arms and shoulders—adds immeasurably to pleasure of driving. Write Us Today for free illustrated literature. We sell direct, saving you unnecessary profits; pay mailing charges; guarantee to return your money if you are not SATISFIED, after using gear 30 days. Don't risk accidents that this safe steering gear would enable you to prevent. Write us immediately, or better still, order one now and pay postman when it arrives. Do it now.

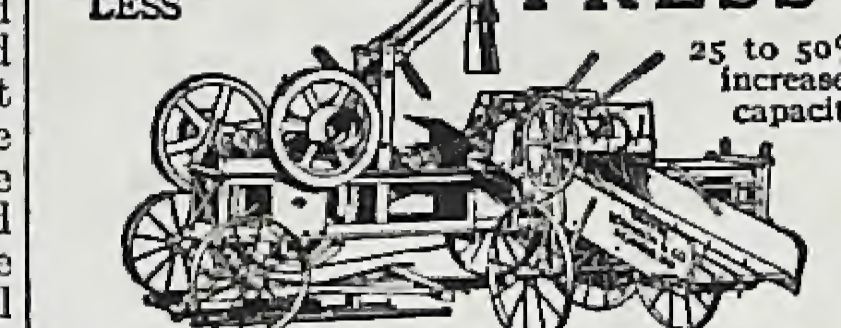
E. H. SPRAGUE MFG. CO., Dept. A, Omaha, Nebr.



**TEN** mighty pleasing, smart-looking automobile colors. Specially made to dry quickly with a hard, smooth, easy-to-clean surface that defies road dust.

One quart Gloss Black At your dealer's, \$1.45  
Louisville Varnish Co., Inc., Louisville, Ky.

## SAVE-A-SELF-FEEDING HAY PRESS



Send for catalog of complete line of "Money-Maker" Belt and Motor Presses. Distributors everywhere.  
Swayne, Robinson & Co., 386 Main St., Richmond, Ind.

**Learn the Auto and Tractor Business**  
NEW ARE TO BE TRAINED IN DETROIT, THE AUTO CENTER, LEARN BY OUR FACTORY ENDORSED METHOD. We teach Auto, Trucks, Tractors, Automotive Electricity, Tire Repairing, Battery Recharging, Heating and Welding, Farm equipment, Machine Shop Work, etc. Our equipment and instruction is the best. Write for new free 168 page catalog, Michigan State Auto School, 311 Auto Building, 1784 Woodward Avenue, Detroit, Michigan. **FREE CATALOG**

## AUTO GEARS BRAND NEW

13:53 Ratio Spiral Ring Gear and Pinion for BUICK—\$13.00 per set. Spiral Ring Gears and Pinions for all other cars at like prices.

Write For Our List Ring gear and pinion for FORD \$3.20 per set. PURITAN MACHINE COMPANY 1610 Lafayette Blvd., Detroit, Michigan "All Parts For All Cars"

## THE AHART METHOD OF TRACTOR PLOWING

No Stakes, Measuring Distances, or Turning On Same Ground Twice To Complete Any Size Or Shape Of Field. Simplest, Quickest, Easiest, Complete Illustrated Manual And Diagrams delivered for \$1.00 check or money order. Order direct from J. Leo Ahart, Agricultural Engineer, Dept. 22, Dow City, Iowa

polite thing is to totally ignore these defects, being considerate of course, in a helpful way, where help is needed.

One subscriber suggests a silver shower for the cripples. He means silver coin. It would be easier and safer to make it a paper bill shower. Yet we hesitate to do this because we believe that all are giving to the best of their ability. If we got a big collection on a certain date we might not get any more for a long time. We need the money coming in steadily all the time. Send all contributions to Crippled Children's fund of Successful Farming, and we will use every cent on some cripple needing a doctor's care.—Alson Secor, Editor.

## OUR COVERS

The first robin in the spring is always a welcome visitor. His cheery notes are the signal for the beginning of another season of activity on the farm. When the robin comes back on the job, everyone knows that in a very short time the buds on the trees will be bursting, the fields will turn green, and Nature will appear in new attire.

It is not a matter of chance that a robin appears on the cover page of this issue. He was selected because of what he means as a friend to farmers. None of the pictures on our cover pages are matters of chance. Each of them is the result of a great deal of careful thought and study and is painted especially for Successful Farming by one of the best artists in the country. Expense is not spared in getting covers which we know will appeal to our readers.

We do not know the author of the following poem which appeared in an exchange, but it fits so well with the cover on this issue that we are giving it to you:

**MISTO ROBIN REDBREAS'**  
"Me'hnin', suh, Ol' Misto Robin Redbreas',  
Struttin' roun' jes lak yo' own dis place.  
Mekkin' big miration wid yo' scarlet ves',  
Stuffin' wo'hms an' sich int' yo' ol' fat face.  
Bleege t' say yo' has er cheerful way.  
Nebah hea'h yo' cryin' times is he'd.  
Reckon dat's 'cause yo' busy all do day.  
So mek yo-self at home right in dis yah'd.  
Geta us er lesson f'm de bird whut sings.  
Whinin' an' loasin' don't get us anywh'ah.  
Mus' wuk an' sing an' mek de bes' ob things,  
Jes' lak Ol' Misto Robin, obeh dah."—E. F. Y. Exchange.

## BRAINS BEAT BRAWN ON FARM

An investigation of the incomes of 554 farmers in one county of Missouri by the College of Agriculture of that state showed, as recently announced by Dean F. B. Mumford, that the educated farmers income was 71.4 percent above that of those with no training.

A similar survey of the incomes of 635 farmers in seven counties of Kansas by the state agricultural college found the trained farmer leading his colleague with but common school education by a margin of \$1,000.00.

The United States department of agriculture reports a study of three representative areas in Indiana, Illinois and Iowa where tenant farmers with a college education were beating the high school educated farmer by a labor income of \$453.00 a year, and passing ahead of the man with but a common school education by \$979.00 a year. Cornell University reports the figures \$225.00 and \$529.00 a year respectively for the above conditions. They also point out that only five percent of the farmers with a common school education made more than a \$1,000.00 on their labor while thirty percent of those with more than a high school training went over this figure. A high school education is worth as much as \$6,000.00 worth of five percent bonds, and a college education is worth nearly twice as much.

When well trained brains can be sold at that price and can be produced by four, six, or eight years, one can easily see that the value of a day in school is greater to the boy than that same day in the field can be to the boy or even his father. Progress in good farming has been rapid and is going to be more rapid in the future so that the coming farmers won't be able to compete, unless well trained.—W. A., Mo.

# KELLY SPRINGFIELD TIRES



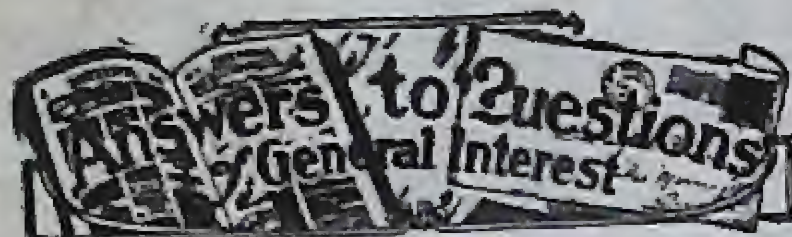
## Now, it costs no more to buy a Kelly!

	FABRIC	CORD	TUBES
SIZES	Black-Tread Kant-Slip	Kant-Slip Block-and-Button or Grooved Tread	Red
30 x 3	\$12.90		\$2.15
30 x 3 1/2	14.90	\$18.95	2.70
31 x 4	24.00	29.80	3.35
32 x 4	27.50	32.75	3.45
33 x 4	28.50	33.75	3.60
34 x 4	29.75	34.95	3.70

Other sizes reduced proportionately

## And the quality is better than ever





### DEPTH TO PLOW

How deep should I plow old sod for potatoes? This is my first year in this section and I want to make a crop of potatoes on a piece of clover sod that has been in two years.—F. T. C.

It is a little difficult to answer your question definitely because the depth of plowing depends on the depth of the soil, character of subsoil, and to a less extent on the manner in which it has been previously handled. In a general way, however, we can say that if the surface soil is deep, a depth of ten inches may be plowed. In the case of shallow surface soils, it is better not to plow more than a half inch to an inch below the bottom of the surface soil. In the case of a surface soil only six inches deep, the depth of plowing should not be greater than six and a half to seven inches deep. Be sure to disk or harrow your land as soon as possible after it is plowed, and keep the surface broken up until planting time. Before planting put your land in the best shape possible for the crop, because well prepared land is half the battle in raising a good crop of potatoes.

### FEED EWES PROPERLY

I have a pair of twin lambs now twenty-four days old and they are still weak and wobbly in the hind legs. We are bottle feeding one and he is the weaker. He can hardly go four or five feet without toppling over. The other one follows his mother but topples over and gets down and has to be helped up. Both are nervous and shaky. They cannot hold their heads steady. Ewes had oats for some time before lambing, but hay was not suitable for sheep as it had very little clover in it.—D. E. S., Wis.

The poor hay would be quite enough to cause the congenital weakness described but the lambs may outgrow it if well fed. It is rather thankless work giving drugs to lambs, but if you can do so you might give tincture of nux vomica twice daily in gradually increasing doses. Start with one drop at a dose. Emulsion of cod liver oil might also prove helpful.

### SOIL FOR BLACK RASPBERRIES

I have a piece of ground which I have just cleared. There is a little over half an acre of it. It seems to be very rich and it has never had any crop. Would you consider this a good soil for black raspberries?—D. C. T., Mo.

The best soil for black raspberries is a rich, deep, moist and well drained one. A sandy or clay loam is preferable. From what you say about your soil, and recalling the fact that raspberries do wonderfully well on newly cleared land containing plenty of leaf mold, we would say that your soil should be almost ideal for this crop.

### SPRAY OUTFIT FOR ORCHARD

I am contemplating getting a spray outfit and wish a little advice as to the sort of equipment to get. I have only a small number of trees, about fifty or sixty. It would not pay for me to get a power outfit, yet I am wondering whether one of the small barrel outfits would not be too small.—L. C. S., Ill.

If it were possible for you to get several neighbors in your community to start a spray ring, you could organize a company and purchase a small power outfit cooperatively. We believe that this would pay you. On the other hand, if you are the only one in your neighborhood who is interested in spraying, the probabilities are that one of the barrel outfits would be the thing for you to buy.

## Wishing for sleep is a poor way to get it

A LITTLE wisdom in the daytime is a better assurance of rest than any amount of anxious wishing when nerves are a-jangle at night.

What you do at noon often has more influence on sleep than what you want and hope for, at midnight.

Coffee's drug element, caffeine, whips up the nerves, and when its use is continued there's usually a penalty which no amount of mental effort can avoid.

The part of wisdom, as so many thousands have found, is to turn away from nerve-stimulation and adopt rich, delicious Postum as the mealtime drink. Postum delights the taste, but brings no disturbance to nerves or digestion. Even the little children can share in the enjoyment of Postum at any meal.

It's better to anticipate warnings than to be driven by them.

It's better to encourage and preserve sound nerves and complete health than to listen to the clock ticks at night and say, "I wish!"

You can get Postum wherever good food or drink is sold and served. An order today may be the beginning, for you, of the great satisfaction and comfort which so many others have found in Postum.



Your grocer has both forms: Instant Postum (in tins) made instantly in the cup by the addition of boiling water. Postum Cereal (in packages of larger bulk, for those who prefer to make the drink while the meal is being prepared) made by boiling for 20 minutes.

## Postum for Health "There's a Reason"

Made by Postum Cereal Co., Inc.  
Battle Creek, Mich.

**Tire Agents Wanted**  
An auto owner in each locality to one and introduce Melling's Extra-Ply and Cord Tires. Make big money part or full time. No capital experience needed. Sample Sections Furnished. **GUARANTEED 8,000 & 10,000 Miles** (No Second). Hand made. Finest materials. Shipped prepaid on approval. **FREE TIRES FOR YOUR CAR** to one user in each locality. Be first to write quick for special Agents Offer and Low Wholesale Prices. **MELLINGER TIRE & RUBBER CO.** 912 North Oak St., Kansas City, Mo.

**Save \$\$ on Roofing**  
Wire Fencing-Paints Etc.  
**Century Roll Roofing** is sold direct from factory to you. 95c per roll and up. Shipped from nearest of 9 factories. **FREE.** Send for samples and new reduced prices. New catalog just out shows **REDUCED PRICES** on roofing, fencing and paints. Write today. **CENTURY MFG. CO.** 210 Metropolitan Bldg. East St. Louis, Ill.

**ARMSTRONG WELL DRILLS**  
Tractor and Portable Models. Drills through hardest formations. Easy to operate. Sold on part cash payment plan. Drilled wells in great demand. **Catalog Free.** **Armstrong Mfg. Co.,** 149 Chestnut St., Waterloo, Ia.

**WILSON FEED MILL**  
For grinding corn in the ear and small grain.  
Has special crusher attachment which first breaks the ears of corn, which can be shoveled right into the hopper. Also Bone and Shell Mills and Bone Cutters.  
Send for Catalog **WILSON BROS.,** Box 14 Easton, Va.  
Successful Farming advertisements guaranteed

For an orchard the size of yours, a single action barrel pump will be plenty large enough. You will be able to spray your trees very handily with this size. If you would rather have a larger pump or a pump with considerably larger capacity, and you are willing to go to the extra expense of such a pump, a double action pump will serve you. However, with only fifty or sixty trees to spray, if you are the only one who is going to use the pump, we believe that an ordinary single action barrel pump outfit, which you can put in a wagon for use in the orchard, will be about the right size.

### VALUE OF FERMENTED MILK PRODUCTS

Is fermented milk more beneficial than plain buttermilk or milk for drinking?—Mrs. M. C. R., Ill.

Fermented milk products, of which there are several, such as koumiss, kephir, etc., contain large quantities of lactic acid forming bacteria, which are supposed, according to the theories advanced, to retard the development of putrefactive bacteria in the intestine. It has been advanced that many disorders are incident to these latter bacteria and their development, and that the lactic acid formers, by hindering their growth, may reduce the disorders in question. According to the United States department of agriculture, the most recent observations make it doubtful whether such soured milk is as beneficial as has been claimed by some enthusiasts. There is no question, tho, of the high food value of milk and milk products.

### A GRAFT

A fellow here claims that he can graft an apple tree on a maple tree stump—one branch would be maple and the other would be an apple—and bear fruit just as well. He claimed that he could graft an apple on a wild plum, on a wild cherry, etc. I would like to know how that would be done, if it is at all possible.—C. L. K., Wis.

The man who told you that he could graft an apple tree onto a maple tree, or an apple on a cherry, told you something which is not true. You can graft apple only on apple or related species of trees. You are not able to graft apple on maple, apple on cherry, or maple on oak, or anything of that sort.

### HANDLING HATCHING EGGS ROUGHLY

Can you tell me if it hurts setting eggs to haul them forty miles in car in big quantities? We bought some last year and packed them in oats in bushel baskets, but didn't get a very good hatch. Do you think it was the jarring that hurt them?—H. C. S., Iowa.

It is very possible that the severe jarring which your eggs undoubtedly got was partly the cause for a poor hatch. However, if you are reasonably careful in transporting the eggs there should be no serious harm in so doing. Pack the eggs carefully, drive as carefully as possible, and when you have arrived home let the eggs rest for twenty-four hours after you arrive, before you set them in the incubator. At the end of the first twelve hours turn the eggs and then at the end of the next twelve hours you can place them in the incubator.

### PYRETHRUM DUSTING FOR CABBAGE

Last year I received a letter from you telling me how to use a powder with lime to kill cabbage worms. I wish you would let me know this again, because I lost the recipe.—C. F. L., Mich.

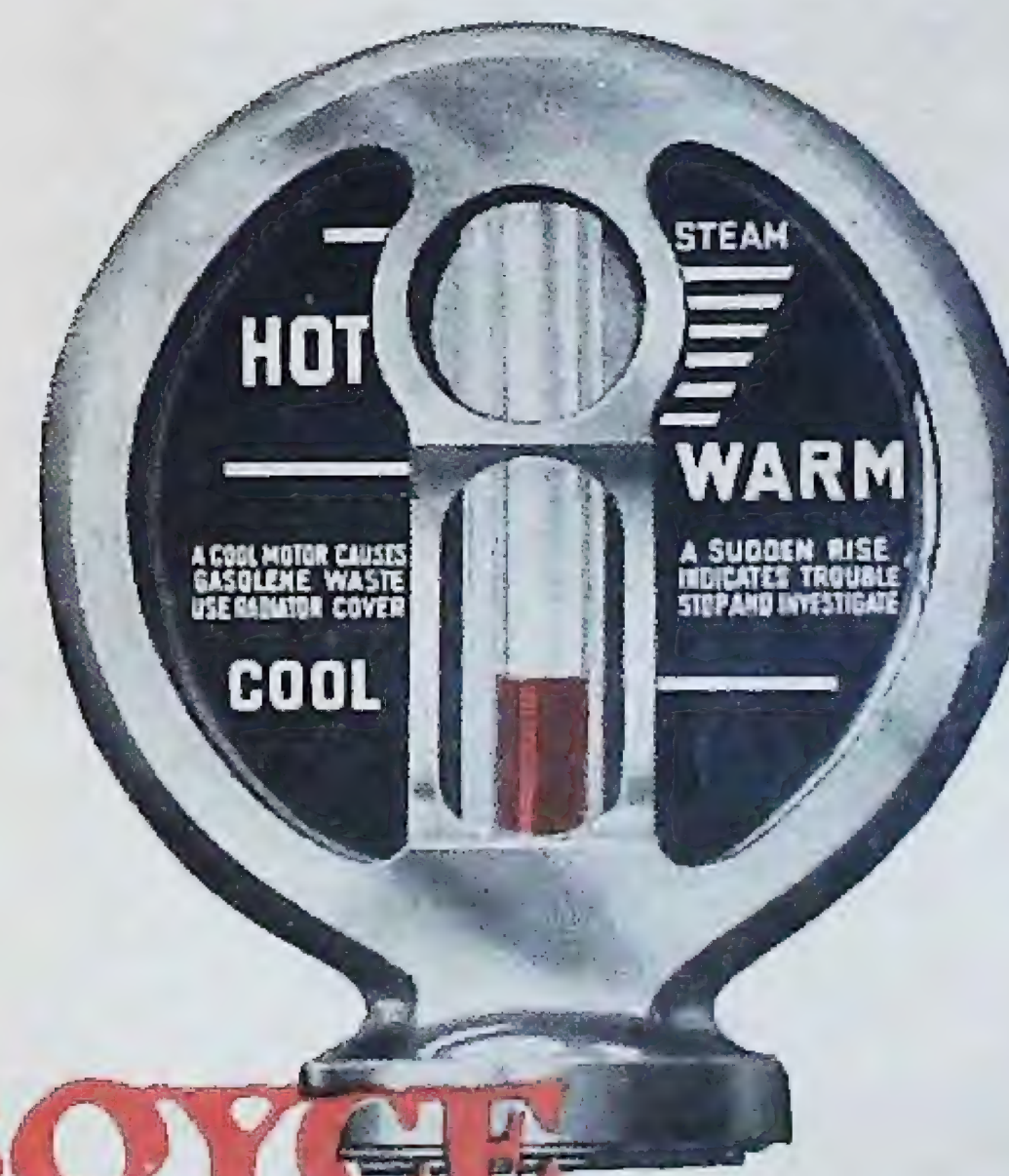
You evidently refer to the use of pyrethrum on cabbage. After cabbage and cauliflower begin to head use only pyrethrum. Mix one part of pyrethrum with one part road dust or air-slacked lime, and dust on plants to be protected.



## On the job—all the time

WITH the Boyce Moto-Meter on the radiator cap of your trucks and tractors, you can be sure that they will be on the job 365 days in the year. Transportation delays are costly, unnecessary and easily avoided.

The Boyce Moto-Meter is permanent insurance against the damages of premature wear and overheating. It is always on the job saving money for you—helping you to keep your motor equipment running at its highest efficiency.



Your garage or dealer carries Boyce Moto-Meters in stock, or can quickly obtain one for you. There are seven models, \$2.50 to \$15.00. The model shown here is the Truck and Tractor.

Trade with dealers who offer service. Look for the Boyce Moto-Meter Service Sign.

**BOYCE  
MOTO METER**



## PRICE FIXING

There has been a grumble of discontent for many a year because the farmers have had to sell at a price fixed by the buyers, and buy at a price fixed by the sellers and a price fixed by world markets. No other industry could stand such an unjust arrangement. There is no reason why agriculture alone should stand it.

Agitation is rife for agriculture to adopt the age-old custom of setting and getting a fair price for its productions. Some would have the government sponsor price fixing on the basic commodities of agriculture while others see great danger in government price fixing.

The different governments indulged more or less in price fixing on both agricultural and other products during the war as an emergency measure because selfishness too often hides behind such needs as are created by war. These price fixing methods were abandoned as soon as possible. The scandals in connection with so many business enterprises indulged in during the war by the various governments makes one hesitate to suggest that we ask our government to have a hand in price fixing on the products of the farms.

The farmers have demanded tariff protection equal to that enjoyed by manufacturers. And to what advantage? None. Smooth politicians have long gotten the farmers' votes on the strength of tariff protection. We have yet to see the price of farm products raised in excess of domestic consumption advance by the enactment of a tariff, or drop when these products were placed on the free list. The fact is that industry has used the farmers to help it get a high tariff that widened the spread between what the farmer got and what he paid.

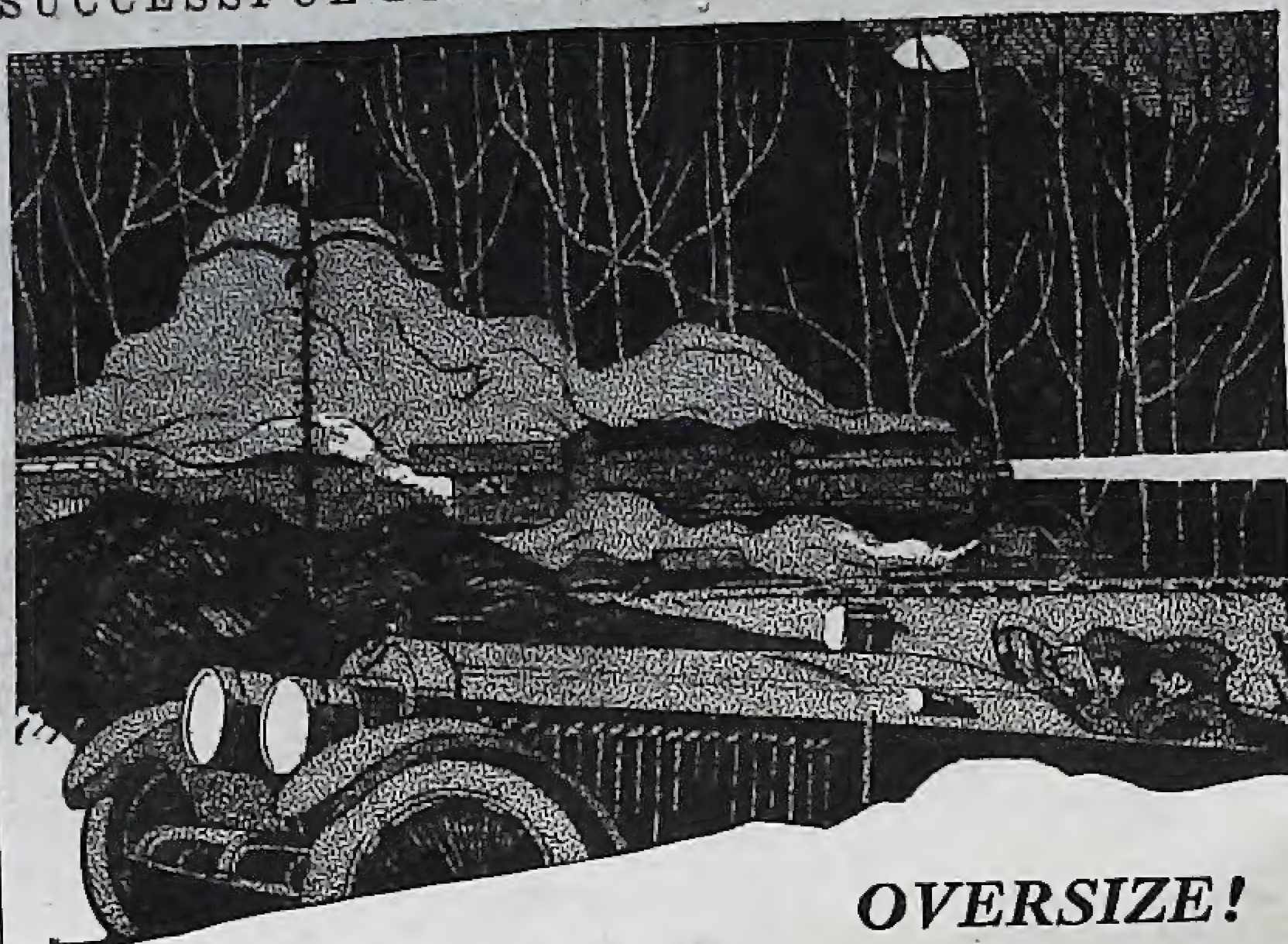
A tariff has not helped the farmers when placed upon our surplus production, because a surplus is its own tariff wall. Other nations cannot sell where there is already a large surplus export. This surplus is sold in a world market, and this market fixes the price for the whole domestic trade as well as for the export trade.

The manufacturer is protected by a tariff because he controls his output and thus controls his domestic price. He can continue manufacturing for export or not as suits him. The farmer cannot thus control his output, hence he and the farmers of other nations have a surplus to sell somewhere at world prices.

To make a tariff effective on farm products, the farmers must control the entire production and fix a price that is fair for domestic sale, and sell the surplus through a pool and take the world price for that surplus, thus taking a loss on export only instead of on the entire crop. Then a flexible tariff will really protect the farmers because domestic prices would be above world prices and would induce importations if there were no tariff to maintain the domestic price. Then, and then only, would agriculture be on a parity with protected industry. Then the tariff would amount to something.

One of the sanest proposals for price fixing we have seen thus far is one in a pamphlet copyrighted by W. H. Harrington, which would assess against every bushel of grain that enters world trade, and against every pound of cotton a certain factor that would finance the surplus export sale and return to the producer whatever was left from export sale. The assessment on each bushel sold in the domestic market would be such as to leave cost of production and finance any loss on exports. The farmer would also get increased profit when world prices were more favorable. Domestic prices would be fixed independently of export price.

The plan is too long to discuss here. We hope to publish it in full that our readers



## OVERSIZE!

WESTINGHOUSE BATTERIES give you the same sense of added security you have when using oversize tires.

For they, too, are built "oversize"—as much as 25 per cent in common sizes. Their larger plate area means greater capacity, longer life, less strain and drain—more reserve power for emergencies.

To uphold the fame of the name they bear, Westinghouse Batteries have one quality only—the best Westinghouse can put into them.

To fulfill the factory-backed Westinghouse Guarantee, or to furnish Westinghouse Attention for the battery now in your car, seventeen hundred Westinghouse Service Stations are at your command.

WESTINGHOUSE UNION BATTERY COMPANY, Swissvale, Pa.

## WESTINGHOUSE BATTERIES

### Get Top Prices For Potatoes

Don't be content to take less for your potatoes than they are worth. You can realize the highest market prices by establishing a standard for dependability of grade with the assistance of a Boggs Grader.

With this machine you can sort and grade round or long potatoes into the two Government sizes and eliminate culls and dirt—all in one operation.

### Boggs Potato Grader

The Standard Grader

quickly pays for itself by saving labor and making it possible to obtain 25c to 50c a bag more for potatoes. The Boggs Grader will equal the manual labor of from three to five men.

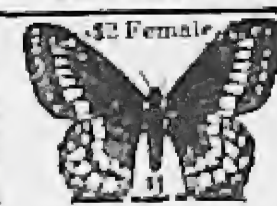
No experience necessary to operate. It cannot bruise or injure potatoes. Can be installed in field, warehouse, cellar or car. Occupies little space. Is operated by hand, motor or engine. Lasts a life-time.

Made in sizes to handle from 75 to 700 bushels per hour. Six models, \$40.00 and up. Booklet sent on request.

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Representatives in all sections.

**PATENT PROTECTION**  
Before disclosing your invention to anyone send for free blank form "Evidence of Conception" to be signed and witnessed.  
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may consider and discuss it. This plan puts the whole price fixing scheme in the hands of the farmers, benefits industry as well, harms nobody and benefits the producers by giving them a fair exchange value for their products.

## THE FACTORY END

There ought not to be such a large gap between farm and factory. Some day it will not be thus, not that the individual farmers are going into manufacturing, but that they will be forced to own many of the processes of manufacture in order to get a fair price for their products. In butter and cheese making they have done well. In milk dehydration they have made a beginning.

When the farmers have sold their raw products, they have said goodbye to the right to dictate price or distribution. When they own the packing plant, cannery or dehydration plant, they can then deal with the wholesaler or the ultimate consumer as they choose. The California fruit growers prefer to deal with the jobber or wholesaler rather than the consumer. They are in a position to dictate the price the growers get.

Another stage of development along this line is the dehydration process that is now gaining so rapidly as a cooperative enterprise in connection with production. It puts the grower of fruits and vegetables in the position of the manufacturer. The larger profits stay in the pockets of the producers. The cooperative creamery is a good thing for the farmers and the consumers. It always furnishes a ready and steady market for butterfat. The cooperative canning factory has done the same thing for sweet corn and other products. Now comes the next step, an adjunct to nearly every cannery, the dehydration plant. The two work fine together for there is a field for both products. The great saving made in packing and freight by dehydration makes it possible for a cooperative group in any small town where workers can be secured to put in a dehydration plant and keep the money at home that now goes to others or is lost for lack of market. Over a hundred and fifty dehydration plants have sprung up in California within two years. The home folks own them.

Their dried products go all over the world, at a very small cost for freight. The Germans would have starved out soon had they not stored lots of dehydrated products before the war. The farmers are paid little for their fruits and vegetables, because they are not in a position to put them in a marketable form. When they can haul them to their own cannery or dehydration plants and convert them into form the consumer can use, they will then be able to set the price. Producers should always set the price. It is absurd that the buyer can tell the producer what he must take.

## CONCRETE PREVENTS WASHING



Concrete Drive

The entrance drive on an Illinois farm was a source of constant annoyance to the owner. No matter how much gravel was spread over its surface, the slope of the land produced a wash during a heavy rain, that gullied the wheel tracks and left the drive in bad shape. This was overcome by laying down broad wheel tracks of concrete. The sub-base of this concrete work was made a little thicker than usual but the employment of cement for wheel tracks only rather than a complete drive of this material resulted in a large net saving—O. C.

## Use PLATE Glass

### For Every Kind of Motor Car Use

For the windshield and windows in your motor car no other kind of glass can take the place of plate glass. It gives clarity of vision that nothing else can equal. For it never deceives the eye or the wheel-hands.

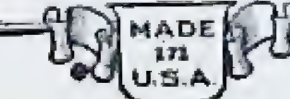
For every car, large or small, open or closed, plate glass means certainty and safety in driving, beauty of appearance, and the firm knowledge that you are seeing things as they are and never distorted by waves and swirls that distort the view.

People cover their dining-tables with plate glass protection because plate glass is smooth, level, sag-free. For the same reasons, you need it for replacements when accidents break the glass in your motor car.

PLATE GLASS MANUFACTURERS of AMERICA

Nothing Else is Like it

Genuine PLATE GLASS







### SCREENS FOR SCHOOL HOUSE

"If flies are a menace to health and comfort in the home, why shouldn't we bar them out of the school room?" This was the question which a rural school teacher in Illinois put to herself as she contemplated her pupils sharing their lunches with the many flies which swarmed over them. A screen door and a few yards of netting for the windows remedied the situation at comparatively nominal expense. Less irritability on the part of the children, better lessons and an improved atmosphere in every way followed. Other rural schools could well profit by following the example set in this instance. Observation will reveal that the screening of country school houses is quite exceptional. O. C.

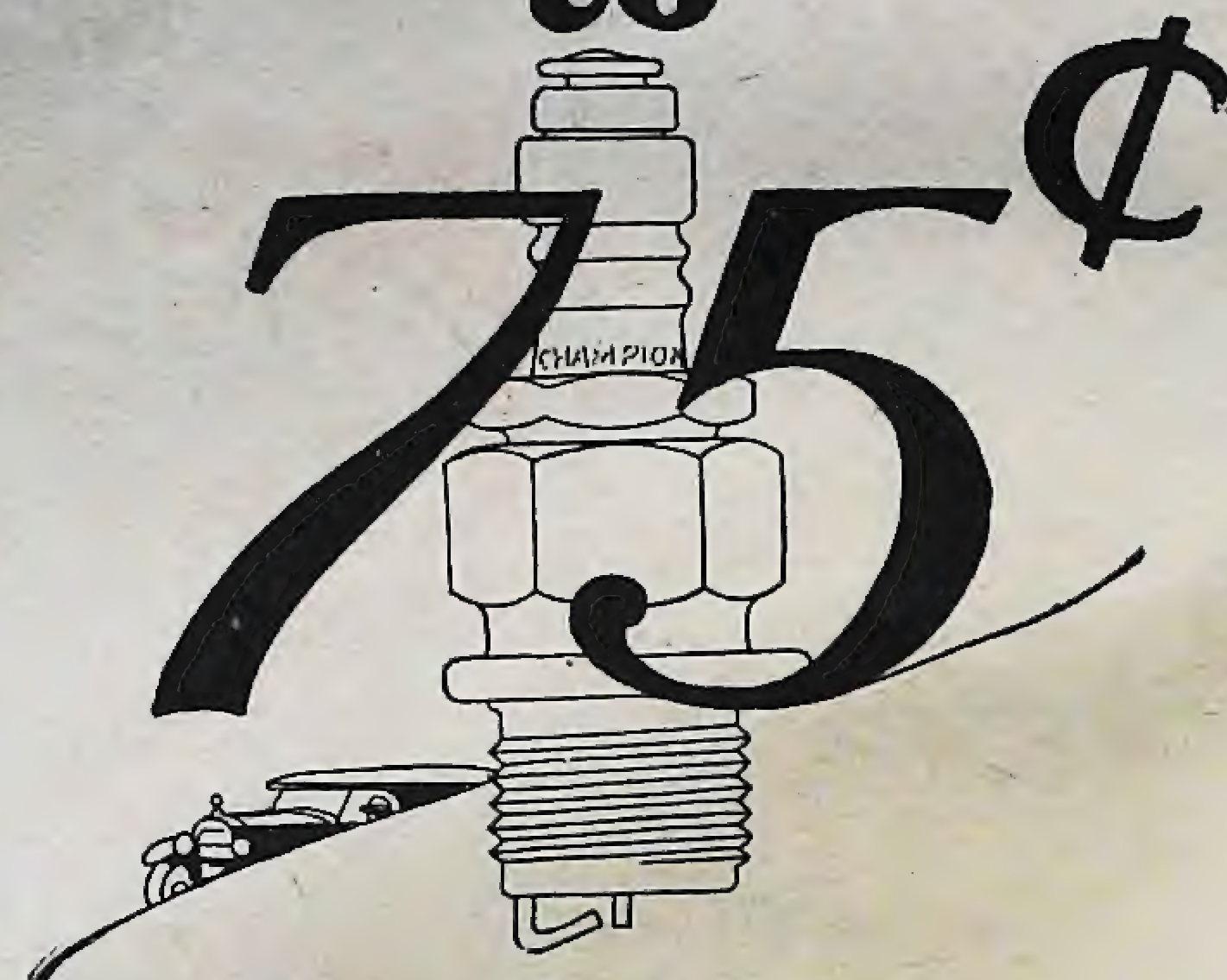
### GREATEST EXPORTS OF GRAIN

"There seems to be a general impression," says a report of the department of commerce February 9, "that there has been a great falling off in the quantity of exports of agricultural products during the past year, due, no doubt, to the fact that the price has declined. As a matter of fact, the total volume of exports of the principal agricultural products for the year 1921 amounts to more than 20,000,000 tons compared with 16,500,000 tons in 1920, and 10,500,000 tons in 1913. In fact we exported the largest total volume of such products of any year in our history. The principal commodity is grain, including grain products, which alone amounted to 16,000,000 tons in 1921 as compared with 12,000,000 and 6,000,000 in 1920 and 1913, respectively. The exports of cotton exceed those of 1920, which is also true of meat products, sugar, oil-cake and meal and tobacco. There was a slight decline in the exports of dairy products and vegetable oils.

"It would appear from that data that the agricultural surplus complained of in this country cannot be altogether due to a lack of foreign trade, especially with grain, as a tonnage fully two and one-half times as great as the prewar figure has been exported during the past year. In connection with this it should be pointed out that about ninety percent of our agricultural products are consumed at home, and therefore a little variation in home consumption may be a much larger factor than a variation in the foreign trade. Unemployment and economic distress in the industrial regions usually means a lower standard of living and a decreased consumption of meats and other food products of this class. The falling off in meat consumption alone probably amounts to seven pounds per capita. When it is considered that the bulk of the corn crop goes into the production of meats, this accounts for at least some surplus corn, but, of course, the biggest factor in the corn surplus is the fact that we have had two exceptional crops in successive years. On the other hand, there has apparently been no decrease in the consumption of wheat in foreign markets, due to their economic distress; the indications being that wheat consumption is going up, especially since restrictions have been removed requiring the mixture of flour substitutes. Europe is continuing to take about fourteen million bushels of wheat a week since the first of July, in spite of the fact that they produced this year a very much larger

# Reduced!

## to



Genuine

## Champion

### Dependable Spark Plugs

You well know that CHAMPIONS are the choice of most of the 10 million American motorists, and you can now buy them for 75c.

Champion X (Ford) now 60c.

Champion Spark Plug Co., Toledo, Ohio.

# Make Extra Money at Home!



No matter where you are—in town—on the farm. You can turn idle hours after regular day's work into profit. Mend auto tires—tubes—gum boots—rubbers—hot water bottles, etc.

**Make \$30 to \$50 Week Extra Evenings and During Spare Time**  
Haywood's home outfit does it. It's a wonder. Simple. Practical. Inexpensive. Guaranteed. Can be operated anywhere—basement, garage, barn. Average \$10.00 to \$15.00 earnings easy. Keep present job, stay at home whether in town or on farm. Do neighbor's work.

### Read What Willis Says

"Am doing all business I can handle during spare time. Have machine in shed at home. Picture shown above. Am going to say goodbye to my job." Works during day. Operates Haywood machine in evening. Fixes punctures. Vulcanizes casings. Mends boots. Repairs all kinds of rubber goods. Does thriving neighborhood business. One tire and pair of boot soles yield \$5.00 clear profit. Work all done in one evening.

### It's Your Opportunity

Settle that financial question right now. Stop wishing for more money. Haywood offers you a quick way. Get full details. Write at once for information. Postal or coupon with name and address will do. Mail it tonight.

### \$98 Starts You Out

Includes everything complete. Machine, tools, materials, clamps and full directions. Instructions simple. Possibilities unlimited. As business grows Haywood can furnish larger outfits. Men with Haywood's big equipment now making \$3000 to \$10,000 a year! The same opportunity open to you. Address me personally.

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New Zealand Reds—Flemish Giants—American Blues  
FOR US—BIG PROFITS—WE SUPPLY STOCK AND PAY \$2 TO EACH. Also other fur bearing animals easily raised anywhere. Free Catalog and contract. The Illustrated Rabbit Book, and copy of our large small stock magazine 10c. OUTDOOR ENTERPRISE CO., 220 O. E. Bldg., Kansas City, Mo.

**\$40 MOTORCYCLE** We have the best line of used motorcycles in the country at the lowest prices. Send for Catalog. We are one of the largest motorcycle supply houses in the world. Repairs a specialty. Send to your machine to be overhauled. Motors and castings for airplanes and military velocipedes. We Exchange Motorcycles.  
Harry R. Geer Co., 666 McLaren Ave., St. Louis, Mo.

crop than last year. If Europe continues to take wheat at this rate until the first of next July, as previously pointed out by this department, it is going to lower the world's wheat surplus to quite a low margin."

### WE WANT THE DEEP BLUE SEA

Continued from page 6

fix their rates they have to figure in the cost of handling the goods in New York and they tax the producer and the consumer for the expense. If railroad freight could always go from the car to the vessel by lighter it would not be so bad, but when export freight has to go to the warehouse the cost of lighterage becomes important. When the Middle West ships thru New York it is like emptying the horn of plenty thru the small end of the horn—a method of pouring which subsequently costs the shipper from \$60 to \$80 a ton.

Not only are rail hauls expensive, but our transportation system is inadequate. In a season of congested shipments in the New York terminals cars are held up for weeks and months at a time. And grain remains in the elevators in the West for months and months with large amounts of money tied up in the storage. It has a disastrous effect on the consumer because with this volume of goods held in these elevators he has had to depend upon the lesser volume that was flowing and obtainable and that has resulted in a revision of price. In such a place there must also be quite a volume of money tied up in financing the holdover.

Products must be transported promptly during the periods of most acute demand in the world's markets. The railroads cannot or do not provide the excess facilities to meet the heavy traffic burdens during crop moving periods. Ocean traffic is more flexible. Routes can be changed to meet the exigencies of trade, and the track is unlimited.

It is an established fact that the commercial world demands ship transportation for trade wherever it can be had. If we are to compete with other nations in the grain markets of the world we will have to see that more economical and efficient transportation is provided. And we turn to the proposed St. Lawrence ship channel as affording the most available solution of the problem of providing this transportation.

The problem is merely an engineering job of leveling the rapids in a deep, wide river! The entire project when completed will give all the Great Lake ports the advantage of ocean shipping and ocean rates.

It is generally agreed that wheat could be sent from Duluth or Chicago to Liverpool by this route at considerably more than ten cents a bushel cheaper than by our present system. We would have a dozen new terminals, Buffalo, Milwaukee, Duluth, Cleveland, Chicago, Detroit, Toledo—all near the source of production. While prompt and economical transfers are important where goods are transshipped, the avoidance of transfers is much more important. The Great Lakes route will eliminate transfers on a vast amount of business and reduce the number and costs of transfers on an equal or greater amount. The saving of terminal costs and of losses resulting from delays in delivery of goods will amount to several hundred million dollars annually. And the initial cost of fitting up the St. Lawrence for ocean vessels is estimated at only \$250,000,000.

Dream of the cornbelt with a hundred million more dollars to spend every year on its schools and churches and homes and roads! We want the seal!

Are you interested in inland waterway transportation? Drop us a line so we may know whether or not to continue articles along this line. We want to give you what you want but we must depend upon you to tell us.

# OILPULL

## "The Cheapest Farm Power"



## Cheap Power Is No Longer a Problem

In the OilPull the problem of producing cheapest power for farm work has been solved, by combining the Four Vital Factors. These are: (1) Lowest Fuel Cost. (2) Lowest Upkeep Expense. (3) Longest Life. (4) Reasonable Price.

As proof, the OilPull has the following records to its credit: (1) Holder of all National Fuel Economy records for 10 years. (2) Investigations show upkeep cost of only 50% of the Government's national average. (3) OilPulls average 10 years and more of service. (4) Reasonable Price.

In no other tractor will you find these four combined.

\* \* \* \*

The OilPull has always been a *quality* machine. It has always been a bona fide *oil-burner*. These features have helped it establish its wonderful record. But of greatest significance has been *Triple Heat Control*—a wonderful, scientific, oil-burning system now perfected and used in all OilPulls. See what it does: Gets the power out of cheap kerosene. Absolutely controls temperature of motor. Prevents freezing. Prevents overheating. Makes possible our bona fide guarantee to burn kerosene successfully, under all conditions and at all loads up to full rated brake horse power.

### Send Coupon for Free Booklet

There is an OilPull that will make money for you. The Advance-Rumely dealer in your section will demonstrate it to you. Meanwhile write for catalog and special booklet on Triple Heat Control.

Advance-Rumely Thresher Co., Inc.  
LaPorte, Indiana



Served from 30 Branch Offices and Warehouses  
The Advance-Rumely line includes kerosene tractors, steam engines, grain and rice threshers, alfalfa and clover hullers, husker shredders and farm trucks.



## Triple Heat Control

A gallon of cheap kerosene contains more actual power than a gallon of expensive gasoline. The problem is to get the hidden power out of cheap kerosene.

Triple Heat Control is a scientific system of oil burning that positively DOES get the power out.

Free Booklet  
Write for a copy today



Please send free copy of booklet on Triple Heat Control.

Name \_\_\_\_\_ Address \_\_\_\_\_

# ADVANCE-RUMELY





### LIGHT AND POWER FROM THE WIND

#### THE AUTOMATIC FARM HAND

The Aeroelectric is equal in results to many hands in the saving of valuable time and money on the farm—it operates the electric milker, separator, feed grinder, automatic water system that will furnish water to your bathroom, kitchen, barnyard and barn—a powerful stream under pressure for washing your auto, your stalls, sprinkling your garden and affording you complete protection against fire. The Aeroelectric takes the drudgery out of the housewife's tasks—it runs the washer, churn, cleaner, iron and many other appliances of convenience—and remember, the WIND does it all.

#### NO FUEL COST

There is no gasoline or kerosene to buy with the Aeroelectric—no high speed engine is eating up a constant stream of expensive fuel and oil—a six mile an hour wind is enough to start the Aeroelectric charging. At 17 miles an hour, it develops 1,000 watts, and with a wind of 20 miles an hour 1,400 watts. In a short time, the saving in fuel cost alone will pay for the plant.

#### NO REPAIR BILLS

There are only four moving parts in the Aeroelectric: the 14 ft. wind wheel—two gears carried on Hyatt Roller Bearings and running in a bath of oil—and a special Westinghouse ball bearing generator. The speed of the main shaft is only 60 revolutions per minute with a steady turning motion—compare that with a gasoline engine speed of 2,000 R.P.M., which, with every other revolution, gives an explosive impact on the bearings, thus setting up destructive vibration, which soon shakes the machine to pieces and necessitates frequent repairs. The Aeroelectric is simple in design and sturdy in construction—it is built to last.

#### NO ATTENTION

The Aeroelectric is automatic—it requires none of your time for attention—it starts charging in a six mile wind and turns itself out of the wind when the velocity reaches 30 miles an hour, thus protecting itself and the tower against any possible injury—it stops automatically when the batteries are filled. You can erect one of these plants any place on your farm and forget it for a year at a time—there is no noise, no vibration, no dirt and no fire hazard.

#### PLANTS IN USE FROM COAST TO COAST

Perkins Aeroelectric Systems are in successful operation from California to North Carolina, every one of them giving satisfaction, furnishing 50% more electricity than can be used on the average farm. Government statistics have been checked and more than enough wind is found in every State to operate the Aeroelectric.

#### NEW PRICE NOW BRINGS AEROELECTRIC IN REACH OF ALL

The price of the Aeroelectric includes 50 ft. tower, a 14 ft. wind wheel and generating mechanism, Vermont slate panel board with instruments and extra large capacity storage batteries. We have a special long payment plan that insures to interest you—write today for booklet, sending us name of your favorite dealer.

**PERKINS CORPORATION**  
78 MAIN ST., - MISHAWAKA, - IND.

#### DEALER

There are great sales possibilities with the Aeroelectric, and it is a plant that requires NO SERVICE—a blessing to user and dealer alike—write now for dealer proposition.



A dash of lightning may leave your buildings in ashes. Barnett System guarantees protection to life and property.

No losses where our copper rods are used.

**AGENTS WANTED.** Big demand. Quick profits. Exclusive territory. Ed. Petrie and \$975.00 worth of Barnett rods in twenty-four days. We teach you the business. Write for agents prices, free cable samples and lightning book.  
JOS. A. BARNETT & CO., MNFGRS., CEDAR RAPIDS, IOWA

#### INVENTORS

If you have an invention write for our guide book, "HOW TO GET YOUR PATENT". Send model or sketch and description and we will give our opinion of its patentable nature. RANDOLPH & CO. Sept. 22



#### HOW SPRAYING GETS THE CODLING MOTH

A good many people would do a better job of spraying if they understood how the poison kills the larva of the codling moth. Many think the eggs are being laid in the blooms, and it is important to spray them to get the worms. The eggs are not laid for two weeks after the blooming period ordinarily, nor is it possible to do a good job of spraying for codling moth when the petals are still on the bloom clusters. The poison is stored for future use. The reason why spraying must be done just after the petals fall is because the calyx or blossom end of the apple is open then so the poison can enter, and it closes in a few days, shutting the poison in where it remains permanently waiting for the larva to come for it. More than ninety percent of the larva will try to enter thru the blossom end, and never get further. This is the safety dose, but two weeks later the direct dose is administered when the tiny larva are just hatching and are eating tender foliage on their way to the little apples. Thousands are caught by it and then those escaping have little chance to pass the safety dose in the calyx. Even the second brood will meet death from this safety dose if it enters thru the calyx, tho many of these enter thru the side of the apple. —L. H. C., Kans.

#### A SPRAY CALENDAR FOR APPLES

Here is a handy spray calendar for apples. It tells when to spray, what to spray with, and what each spray controls. This calendar is arranged so that it fits a large section of the middle west, and the sprays outlined will control the insects and diseases as far south as the thirty-sixth parallel. Farther north it will be unnecessary to use all the sprays. For example, along the fortieth parallel and northward only sprays one, two, three and five are

#### SPRAY CALENDAR FOR APPLES

What to spray for.	When to spray.	What to use and how to use it.
Special Dormant Spray for San Jose, scurfy, and oyster shell scale.	Any time after leaves fall in autumn, and before growth starts in the spring, but best just as the buds begin to swell.	4 1/2 to 5 1/2 gallons commercial lime-sulfur to 50 gallons water. Do not apply this spray unless scale is present.
1. Plant lice (aphids), apple scab, curculio, apple rust, spring canker worms, green fruit worm.	When blossom buds have separated and before the individual blossoms have opened.	Lime sulfur 2 to 2 1/2 gallons to 50 gallons water or bordeaux made up of 4 lbs. copper sulphate, 4 lbs. quick lime to 50 gallons water. Never use both lime sulfur and bordeaux in the same mixture. 3 lbs. lead arsenate paste or 1 1/2 lbs. of powder added to either of above formulas. For plant lice add 1/4 pint nicotine sulphate to the 50 gallons of mixture.
2. Codling moth, curculio, apple scab, plant lice, lesser apple worm, spring canker worm.	When 95 percent of petals have fallen and before calyx cups or blossom ends close.	Lime sulfur 1 1/2 gallons to 50 gallons water plus 2 lbs. of arsenate of lead paste or 1 lb. powder, for plant lice add 1/4 pint nicotine sulphate to the 50 gallons mixture.
Special condition spray, where curculio or apple blotch are bad.	Not earlier than six days nor later than twelve days after petals fall, and only when blotch is severe.	Bordeaux mixture, 3-4-50 (3 lbs. copper sulphate, 4 lbs. quick lime, 50 gallons water), plus 2 1/2 lbs. paste form lead arsenate or 1 1/2 lbs. powder.
3. Curculio, second brood codling moth, apple scab, leaf eating insects.	Three weeks after bloom falls, or perhaps four weeks in case above special spray is applied.	1 1/2 gallon lime sulfur to 50 gallons water or bordeaux 3-4-50, plus 2 lbs. lead arsenate paste or 1 lb. of powder. Use the bordeaux for apple blotch.
4. Second brood codling moth, sooty blotch, apple scab, apple blotch, black rot, and leaf eating insects.	About six weeks after petals drop, or if special condition spray is used, three to four weeks later.	Bordeaux 4-4-50 or lime sulfur 1-50 mixture plus 2 lbs. lead arsenate paste or 1 lb. lead arsenate powder.
5. Same as No. 4.	Apply about three or four weeks after No. 4.	Same as in No. 4.

Note: If the orchard is not affected with blotch, then use the lime sulfur as directed above in sprays Nos. 3, 4, and 5; if blotch is troublesome, use the bordeaux mixture.

needed. But in order to obtain the full value of spraying, a study of the insects and diseases common to your orchard will be of assistance. In connection with such a study this table will be of much help in arranging a program for your orchard spraying. In some sections, for example, bitter rot may be very prevalent. It may even be necessary to spray later than this program provides for, at intervals of two or three weeks in such cases. We shall be very glad to answer any questions concerning spraying about which you may write us.

#### REPAIRING SPLIT TREES

Ten to one there are some trees in your orchard that are split down, one big branch on the ground, or perhaps a crotch has split and the whole tree has spread. If the tree is worth the effort, it can be saved provided the split is clean. Of course, if the branch is splintered and cracked, better finish the job by sawing the branch off and dressing the wound up as smoothly as possible, applying a good coat of white lead and raw linseed oil to the wound for protection.

If the wound is of such nature that it can be repaired, lift the branch back into position; large limbs can be lifted back with a block and tackle. Secure the limb to a branch higher up by means of a rope of sufficient strength.

Place bolts thru the break in such a manner as to draw the parts together. A bolt may be placed a foot or so above the split to act as a brace, and then the parts of the wound drawn together by a bolt or two thru the part split down. There should be large washers at each end of the bolts so that the parts may be drawn together very securely. If a bolt end protrudes to much of a distance it can be clipped off if desired, and within a few years the trees will grow over the exposed heads and nuts. A little time spent with the brace and bit and a few bolts may save a lot of time it would take to set out and grow a new tree.

The farmer is a co-worker with the divine in answering the plea "Give us this day our daily bread." He feeds the world—but it cannot be expected that he will continue to do so at financial loss to himself.

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37 Herrod Avenue,  
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February 13, 1922

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## HOME GROWN STRAWBERRIES

No other fruit has so wide a range of adaptability as to soil and climate as strawberries; indeed, they are produced profitably from Florida to Alaska, and may be found on the market every month in the year. They will grow on land of sufficient fertility to produce common vegetable and field crops and respond readily to a little extra care in the matter of cultivation and fertilizing.

Except in the South, early spring is the best time to set strawberry plants, from March to May being the accepted time in middle and northern latitudes. In the South and even as far north as Missouri and Kansas, they can be set in September or October with fair results. In seasons of abundant rainfall, the new plants that are produced after the berries ripen can be set in June and will make a good growth before fall. When setting plants late, it is best to get them near home and if possible take them up with a trowel so that a little soil clings to the roots. It is possible in this way to take up plants where they are too thick and start another row as late as July.

Since it requires more labor to establish a strawberry plantation and produce a crop than it does to grow vegetables and field crops, there will be no economy in planting on other than fertile soil. If the soil is not already rich, it should be made so with liberal applications of stable manure where this can be procured, and where it is not obtainable, other fertilizers should be used. While strawberries do not demand an extremely fertile soil, it must be remembered that the richer the soil the more profitable crops the plantation will produce before it must be plowed up and reset, for it is difficult and often altogether impracticable to fertilize an old plantation after the first year.

Any good garden soil will be desirable for growing the crop, but for best results a warm soil well drained should be selected. While the plants delight in moisture, wet soil deficient in drainage will not be suitable. Flat land can be improved by plowing it so it will be in wide beds with furrows for carrying off the water. If relatively high ground is selected, there will be less danger from late frost than where the plants are set on low ground. Being near the ground, the blossoms are often caught by an unseasonable frost when the blossoms of fruit trees a few feet higher would escape. Sloping ground is very desirable, and by choosing different slopes, the period of ripening is varied by several days. An eastern or a southern exposure is best for early berries while those grown on a northern slope will be several days later in ripening and may also escape a frost by blooming a little later.

Land that was planted the previous season to some hoed crop like potatoes would be best, since there would be fewer weeds to contend with on clean land. However, it is very necessary to cultivate often through the summer, so that young weeds would be easily killed. New land, or land that has been in pasture for a number of years and then broken up and planted one year to potatoes, corn or other crops, is ideal berry land, but if the plants are set on freshly broken sod on which no previous crops have been grown, the white grubs will destroy many of the plants.

Prepare the ground by plowing in the fall or as early in the spring as the ground may be worked, then work it down thoroughly by harrowing and dragging until there are no air cavities. The distance to set the plants will depend on the space and the system used but the most practical method is in the hedgerow or narrow



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matted row. The land is laid off in rows three to three and a half feet apart, and the plants set in these rows from eighteen inches to three feet apart. If the plants are plentiful and the setting made late, they should be eighteen inches apart, while early planting on good land will cover the ground in one season when set three feet. In a small garden the rows may be closer together and the plants closer in the row. By the hill system only the original plant is allowed to remain, all runners being cut back as fast as they begin to root. By this system the plants are set eighteen inches apart each way. It requires considerable labor to keep the runners cut from a thrifty plant, but the result will be larger berries if not quite so many as in the matted row. Labor spent to this end is well spent.

When plants are received from the nursery all the outer leaves that are dry or broken should be removed, and if late in the season only two or three leaves in the center should be left on. The roots should be dipped in water, and if practicable the plants should be set the same day as received. If not they can be heeled in where the roots will not dry out. The ground should be marked off both ways and the plant set by making a hole with a spade or a garden trowel large enough for the roots of the plant to be spread out in a fan shape. It is very essential that the plant be set the right depth, with the crown even with the surface of the ground after the soil has been packed about the roots. See that the soil is packed around the roots so that no air spaces are left. If the ground should be very dry at the time, it will be well to pour a little water around each plant. Puddling the roots by setting the plants for a little while in a bucket of water into which soil has been stirred will be beneficial when the ground is dry for a time.

Cultivation should begin shortly after the plants are set, and should be continued at frequent intervals throughout the summer. As the plant produces runners these will root and form new plants, often covering the entire space between the rows if all are allowed to grow. It will be better to train the runners along the row until a matted row twelve inches or a little wider results, then cut off all further growth so that a bare space is left between each row. It will require constant work to keep the runners back, but the berries can be more easily picked by having this space between.

Material that is free from weed and grass seed should be used for mulch, such as clean wheat straw, pine needles and prairie hay. Stable manure should never be put on the plants after the first year, as the grass and clover seed would grow and could not be killed out by cultivation as when the plants are small. Oats sown between the rows in August has been found to make an excellent mulch. It will be killed down by the first freeze of winter and falls over the plants without smothering them out.

After the first crop of berries has been picked, the vines and such weeds as have come up should be mowed, and when dry should be burned off while the wind is blowing so that the fire sweeps across without damaging the plants beneath. Some of the old mulch is thus disposed of and the space between the rows cultivated the second season.

Usually three crops are as many as can be expected from one planting, for it is more economical to plow up and reset than to contend with a bed that is overgrown with weeds and grass. By pulling out the weeds in summer it is possible to keep a small patch clean and have profitable crops of berries for five or six years. So many crops without fertilizing are not desirable, and it will be necessary to work in manure or use commercial fertilizer on an old bed after the third year in order to maintain yields.—H. G., Mo.



## GROW GOOD MELONS

It is very seldom, especially in the northern states, that one will find good watermelons or cantaloupes grown in the home garden. Perhaps this may be explained on the theory that few people consider them worth the care and attention necessary to raise them, but I know of no crop grown in my garden that requires less labor for the enjoyment it gives to the family. A nice, rich, sugary watermelon ripened in one's own garden is far superior in every respect to the "shipped in variety," and it would be a gross injustice to judge the former sort of melons by the latter.

Of course, to grow melons on a commercial scale, it would be necessary to select soil particularly adapted to the needs of this sub-tropical fruit, but, in the matter of production for home use only, almost any garden can be made to produce some very choice melons.

In my own experience I had harvested some thriving crops of vines and some very poor fruit for several years before I learned that melons, like any other product of the field or garden, required their own special brand of care and cultivation. And this I learned from a melon grower of the old school.

The plot of my garden devoted to melon culture is about twelve feet by eighteen, which gives me twelve hills of vines six feet apart each way. At each of these points, after the ground has been thoroughly plowed, harrowed and incorporated with stable manure, I dig a hole about twelve inches deep and twenty inches in diameter, and into this I place more manure to the depth of three or four inches. The soil removed is then mixed with equal portions of sand and manure as it is scraped back into the hole, making a mound at that point several inches higher than the surrounding ground. Upon each hill, or mound, I plant the melon seeds to the depth of three-quarters of an inch, water well and leave undisturbed until the plants break thru the soil and acquire their first leaves. At that time I begin cultivation, after pulling out all but two of the strongest plants from each hill. Two plants are enough if good.

As the vines grow and begin to bear flowers I nip off the heads of those producing staminate flowers. This stimulates a growth of lateral branches and it is these that yield the largest and finest fruit. If allowed to grow, as is ordinarily done, these staminate vines would weaken the plants and curtail production at least fifty percent. Another purpose of the pruning is to procure fruit with less seeds and more meat.

Some melon growers have paid large sums of money to learn this little trick of the trade and there is good reason to believe that they made a good investment, as to double the yield of a large plot devoted to commercial growing would prove a worthwhile accomplishment.

An additional item of vital importance in melon culture is to procure the very best seeds obtainable, and the safest method to pursue is to purchase it direct from some reliable seed grower. Carelessness in this respect may result in the loss of an entire season's labor and it costs very little to be certain of the quality of the seeds before planting.—G. H., Wis.

## RARE GOOD VEGETABLES

It is so hard for people, especially farm folk, to try new vegetable crops that some of our most delicious garden vegetables seldom grow in the home gardens. Asparagus, rhubarb, kohlrabi, Swiss chard, chives and some other excellent vegetables are seldom seen except in the city market. While it is a waste of time to try out every so-called new vegetable, all of these are sufficiently well known that their worth is not disputed.

Asparagus, rhubarb and chives are

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perennials, and once well established will last for years. No home garden is complete without an asparagus bed. The edible part is the young, tender shoots which appear early in the spring, and which will continue sending up tender shoots until early peas are ready for use, which the taste, and flavor strongly resembles. Our bed was started by using strong, two-year-old roots, setting them six inches below the surface in a bed made by excavating to a depth of two feet and filling in with very rich soil. No cutting can be done the first year with roots of this age; some cutting may be done the second year and from then on the bed will become more productive each year. Keeping down weeds and giving a good top dressing of manure each winter is all the care needed after the bed is once firmly established.

Rhubarb likes a very fertile, moist, loamy soil. If there is a low corner in the garden, spade it well, fertilize and set the crowns two feet apart. The plants grow easily and if set early some stalks may be pulled the first season. Mulch well with stable manure during the winter; the rains will carry the substance down to the roots. Rhubarb may also be started from seed, and the writer has known a heavy crop of stalks gathered from seed plants the first year. The planting was made on rich, new land and the growth was very heavy.

Chives are closely related to the onion, perhaps an improved strain of the wild onion. The tender plants are ready for use very early in the spring.

Swiss chard is grown for the tender leaves which are used for boiling greens, and are canned quite extensively. Plant in rich soil and cultivate as for beets.—L. Y., Okla.

## CELERY IN HOME GARDENS

Celery may be grown with very little trouble in any garden where soil is of average fertility. The only difficult task connected with the growing of this crop in a small way is the labor of transplanting. This, however, is a matter that is tedious rather than difficult. While a moist, black soil is ideal, good results may be obtained even where less organic matter and humus is present, provided one is persistent in one's effort to supply the growing crop with plenty of moisture. The following method will eliminate much of the work usually associated with the growing of celery in the home garden. Mellow a spot that is about 4x12 feet in size and place a frame of boards, 20x22 inches high, about it. When the young celery plants are ready to transplant, set them in this frame, spacing them four inches apart each way. Some 400 plants can be accommodated even in so limited quarters. Keep the weeds pulled out until the growing plants permit no longer of this being done. As the celery develops it completely fills the frame and branches itself. After the last of the weeding is finished there is nothing else to be done except to supply plenty of moisture in case natural precipitation is deficient. Practically every plant placed in the frame will mature provided the work of transplanting has been done properly. The taproot of each plant should be clipped at the end before setting the plant in the frame. Protected by its wooden box the celery can remain in the open until it seems certain that it would freeze if left to stay longer. After the frosts set in a few burlaps should be thrown over the frame each night. Celery grown in this way will be crisp and tender.—O. C., Ill.

## NO BERRIES ON BITTERSWEET

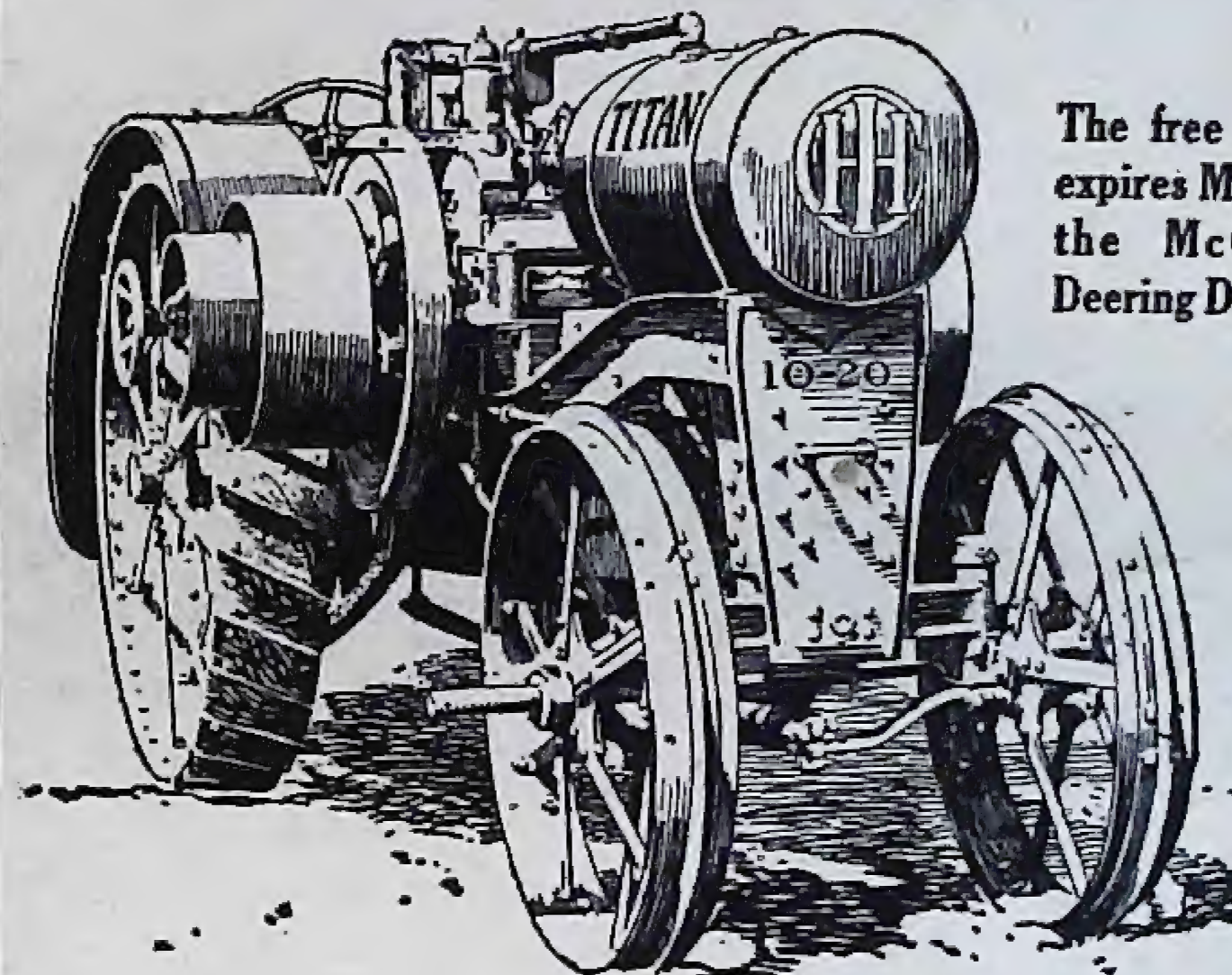
I have one vine of bittersweet which fails to have berries. Why should this be the case?—C. P., Ohio.

In order to insure the production of fruit or berries on bittersweet you should always use several plants together. From what you say we would infer that you have only a single vine.

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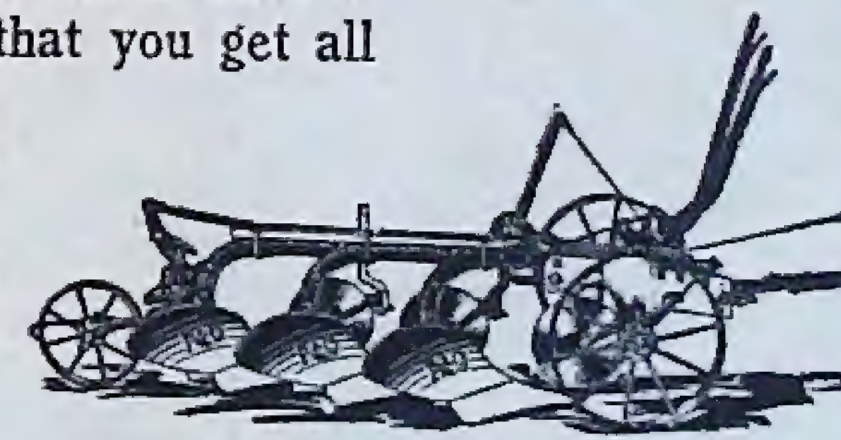


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Note that the Titan is a 3-plow tractor, with belt power in proportion. And remember Titan has proved it will outlive two or three small inferior tractors. Figure that you get all these things—free plow, all equipment, 3-plow reserve power, and double life—for \$700.



The International 8-16 Tractor now sells for \$670. Until May 1 this Company will give with each International 8-16, covered by the Special Offer, a P & O 2-furrow plow FREE. Tractor and plow f. o. b. Chicago.

These amazing opportunities are fast reducing the supply of these tractors and May 1 terminates the free plow offer. If your order has not yet been placed we urge immediate action. See the McCormick-Deering Dealer.

## INTERNATIONAL HARVESTER COMPANY

CHICAGO OF AMERICA USA  
92 Branches and 15,000 Dealers in the United States





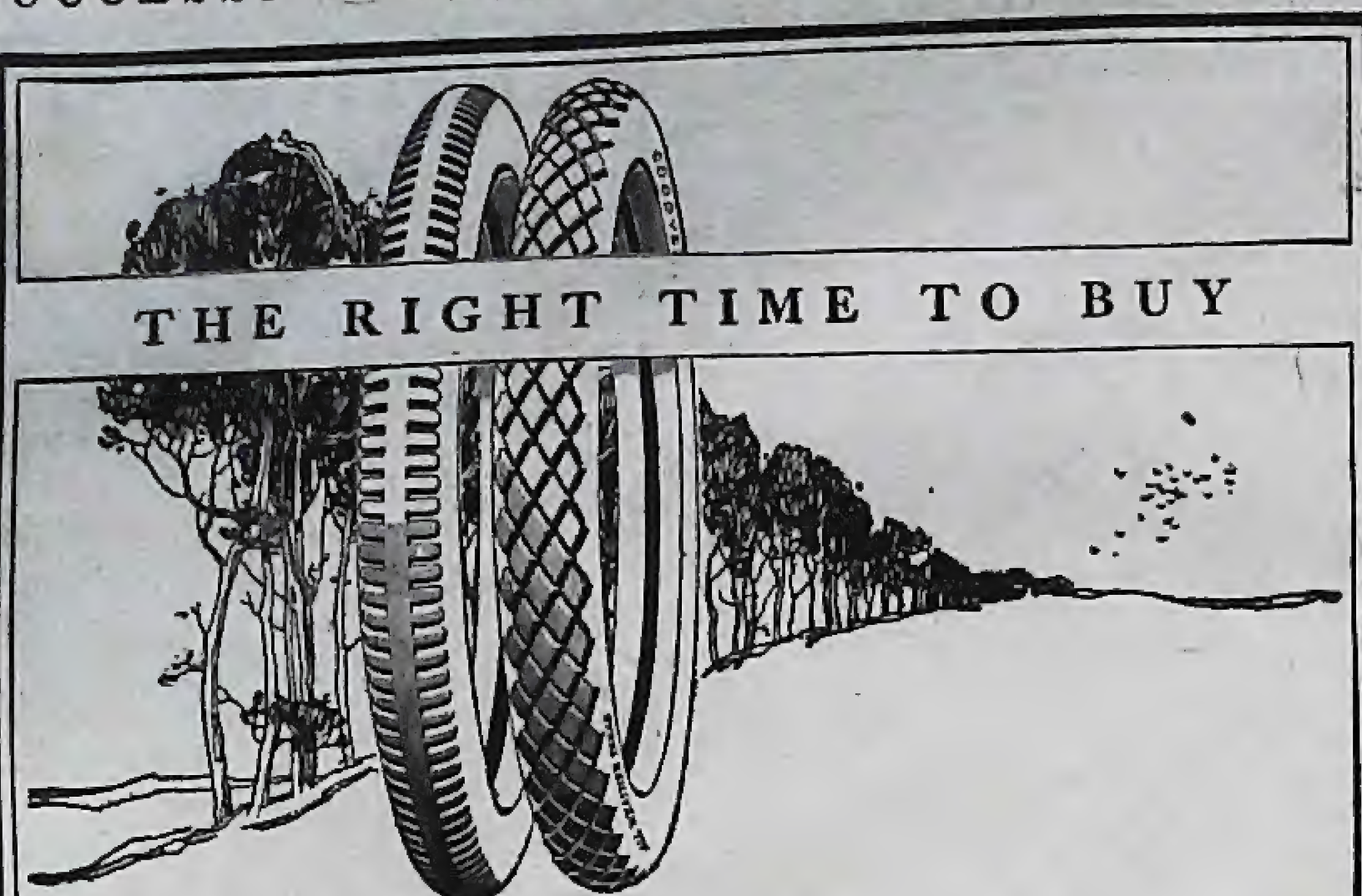
### HILL SELECTION INCREASES YIELDS

Jacob Huth, a Floyd county, Indiana, farmer, increased his yield of marketable potatoes sixty percent in two years by hill selecting the better hills for seed at digging time.

Many farmers in the neighborhood didn't believe much in the practice but Huth went on just the same, selecting his seed stock hoping the time would come when better seed would tell its own story. Last fall the time was ripe for inviting the neighbors in, so county agricultural agent Watson called a meeting and farmers came in from several miles distance. Huth took them out to the patch, explaining that the spuds were all planted alike on the same day and as nearly under the same conditions as possible so that any difference in yields could reasonably be attributed to hill selecting the seed stock before the regular digging time. After everyone had arrived at the patch, a large number of hills in both the selected and unselected side of the field were dug and thrown in hills on top of the ground. One of the farmers who had bought and graded potatoes for years for one of Indiana's large commission houses sorted the potatoes on both sides of the field into United States Number Ones and culls. It was found no matter where you dug that the potatoes planted from hill selected seed averaged two more marketable potatoes to the hill than did those from the unselected seed stock.

I asked Mr. Huth his opinion of the value of hill selection and this is what he said, "You just tell 'em all that I've tried it for three years and it sure has paid me. Why, I can go out in the patch and see any place the difference in yield. My vines are thrifty, and produce a lot of marketable potatoes and few culls and that's what I am after. I expect to hill select more this year than last."

Huth explained his method of hill selection as follows: "I usually go into my patch before the frost has killed the plants and select the vines which are vigorous and healthy with not more than one or two stems to a plant. I select from the one or two stem plants because if they are vigorous and have a large number of tubers on them that is better than getting a lot of potatoes from a hill with many stems; and those high producing, one or two stem plants will be more apt to produce plants next year that will grow large yields of marketable potatoes. After I have selected the plants from the top I dig them and if they have five or six potatoes of marketable size that are smooth and uniform I put that hill in my seed basket, and proceed in this way until I have selected what I want. Oh, of course it's a little more work than going into the bin after digging time and getting them out but we all are rewarded by work we do and I am in this selecting game for keeps, because it has made more money for me." As I looked over the field I agreed with Mr. Huth for he surely had some nice potatoes. Many others have been hill selecting in Floyd county and this, along with more attention to the details of growing the crop, is bringing bigger yields of better potatoes throughout the county.—F. G.



Every automobile owner who is familiar with present Goodyear Tire prices knows that this is the right time to buy.

In the first place, Goodyear Tires are better today than ever before.

In the second place, Goodyear prices are at their lowest point—far lower, even, than before the war.

This combination of higher quality and lower cost means maximum tire economy.

A typical example of present Goodyear values is seen in the popular 30 x 3½ Goodyear Cross Rib clincher, shown above with its companion, the famous 30 x 3½ Goodyear All-Weather Tread.

In the past five years more than 5,000,000 of these Goodyear Cross Rib Tires have been sold.

Built of the same high grade Egyptian cotton fabric that goes into the All-Weather Tread Goodyear, with a long-wearing but differently designed tread, they have given remarkable service.

Their fine performance has demonstrated to thousands of car owners the folly of buying unknown and unguaranteed tires.

You can get these tires from your nearest Goodyear Service Station Dealer. He will be glad to explain their advantages.

30 x 3½ Non-Skid Fabric . . .	\$10.95
30 x 3½ All-Weather Fabric . .	14.75
30 x 3½ All-Weather Cord . . .	18.00
30 x 3½ Heavy Tourist Tube . .	2.80
30 x 3½ Regular Tube . . . . .	2.25

Manufacturer's tax extra

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A live man can make a good income drilling wells with a Dempster outfit. Very simple to operate. A few wells will earn its cost.

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Right now is time to get your Kwik-Mix. Special offer and reduced prices this month only. Post yourself—see how easy it is to build your own concrete floors—sidewalks—four cutters—etc.—do better work—save contractor's profit. Load it on one side, close to materials—dump finished mixture on other side into wheelbarrow—a great time and labor saver. Moves wheelbarrow a mile—all steel—lasts a lifetime. Just right for farm and small contract work. Make ten to twenty dollars a day spare time concreting for neighbors.

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### THINGS NOT FOUND IN EVERY GARDEN

A place two feet by three feet under the hydrant supplies me with the crisp, pungent curly cress for sandwiches, salads or garnishing. It can be cut two or three times but I sow a few seeds every two weeks, thus keeping up the supply thru the season.

Ce Tsai or Chinese Cabbage—One frequently is served a thin slice of this light green and creamy white salad in our better hotels, but it is easy to raise anywhere. Better to plant the seed about the first of July as the early goes to seed. The outer leaves can be cooked as a green, the mid rib makes fine pickles, but the bleached heart is unsurpassed for salads.

French endive is one of the finest of winter salads. Plant the seeds early, for the larger the roots the better. In November, dig the roots, cutting the tops to an inch above the roots. Place upright in boxes, filling in with fine dirt. Cover at least six inches. Let it rest for two or three weeks, then begin watering and if too cold move to the furnace room where there will be rapid growth. Keep dark all the time. When about six inches high it may be cut. The blanched, finely flavored crisp salad will repay for all the trouble. As it sells for fifty cents a pound in city markets you may consider that you have a luxury at a reasonable cost of effort.

Okra is found in so few gardens, yet it is easily grown. The foliage is tropical. I had a hedge as a protection for my sweet peas from the dry winds. It grew to be six feet high, and I do not know which received the most admiration, the okra or the sweet peas. We think of okra as being good only for soups, but it is excellent fried or creamed with green peppers, and canned with tomatoes, corn, and peppers, one has a combination that has many uses.

Summer asparagus is a member of the squash family, producing oblong green fruit. I cut when six inches long and the size of a dollar. Sliced and creamed, fried, or halved and filled with a corn, pepper and bread filling and baked it makes individual servings.

Artichokes take two years to bear, but they are ornamental to any garden. The leaves are shaped like the large thistle, except for their smoothness. Some of my leaves were three feet in length. The cone-shaped buds are indeed highly prized, but few are willing to venture with them.

Yellow tomato, while by no means new, finds a place in few gardens. Two plants will give a variety to many a meal. The Ponderosa is one of the best.

Celeriac or turnip-rooted celery produces roots which keep for winter. It is cooked like turnips, or in stews or soups to replace celery. Added to salads it gives the celery flavor. The beauty of it is, the roots may be at hand at all times.

If these things bring a high price in the market, why not add them to the kitchen garden?—E. B., Ia.

### TIME TO PLOW FOR POTATOES

When is the best time to plow under clover sod for potatoes, fall or spring? There is a difference of opinion here.—C. P. M., Wis.

In your section where the main crop of potatoes is planted about the first of June, it is usually better to fall plow, provided the land is not subject to washing during the winter. A few successful growers plow in the late spring. They say the new growth of clover decays quickly and readily becomes available to the growing plants. Generally, however, the opinion is that fall plowing is more desirable, for it turns the soil up to the sun and wind, and puts the vegetation under where the decay is much more complete. We advise fall plowing where washing of the soil is not a problem.

Plant trees on land that is too poor for crops. Timber is slow but it's sure.

## Cultivates all Row Crops



### Fills the Gap with Tractor Power

WHEN the famous 'golden spike' was driven, for the first time linking the two coasts of America by rail—when the first ship passed through the Panama Canal—great gaps were closed that marked decisive advances in the progress of civilization.

Today the new Cletrac F has bridged the gap in tractor farming in much the same way and with results equally important. Here is another challenge to abandon old, slow, costly ways and adopt new and more profitable methods.

Year after year the tractor farmer has plowed, fitted his seed bed and planted with his tractor—only to abandon it on the next big job, cultivating. Now the invention of Cletrac F makes farming a tractor proposition from start to finish no matter where you live or what you grow!

### Unequaled Usefulness

Cletrac F has an unequalled range of usefulness. It plows 6 to 8 acres a day—discs, harrows, seeds, hays, harvests, hauls, does belt work. And then—completely surpassing ordinary tractor usefulness—it cultivates any and all row crops all the way through.

Mechanically, too, Cletrac F is unique—not an oil or grease cap on it—and it's made of the toughest available material, chrome steel.

### New Low Price

Cletrac Model F now sells complete for \$595 f. o. b. factory—the second big price reduction in eight months and an absolutely bed-rock figure. No extras to buy—a complete tractor for day-in and day-out service. Get full details. Send in the coupon now.

### THE CLEVELAND TRACTOR CO.

Largest Producers of Tank-Type Tractors in the World

18997 Euclid Avenue Cleveland, Ohio

NOTE: MODEL W—We also make the famous Cletrac 12-20 Model W. This crawler-type tractor has its special uses on big farms and in industrial work where more power is essential.

## TRACTORS IN ONE



### CORN and COTTON

Cletrac F runs between the rows in corn and cotton cultivation. You can attach the Cletrac Two-Row Cultivator in two minutes and cultivate 10 to 20 acres a day. Works in corn up to 5 feet high. Can be quickly converted into either of the other two types. Price of tractor \$595.



### ORCHARD and VINEYARD

Ideal for clean cultivation of orchard and vineyard, especially where ground is hilly or rough. Works closer to trees and vines than horses. Turns short from one row into the next. Can be quickly converted into either of the other two types. Price of tractor \$645.



### POTATO and TRUCK

Straddles the row in cultivating potatoes and truck, pushing the Cletrac Straddle-Row Cultivator ahead of it. Unusual clearance allows cultivation as long as crop needs it. Can be quickly converted into either of the other two types. Price of tractor \$695.

SEND US THIS COUPON

THE CLEVELAND TRACTOR CO., 18997 Euclid Ave., Cleveland, O.

Please send me complete information regarding the New Model F Cletrac and Cletrac Cultivators.

Name \_\_\_\_\_ P. O. \_\_\_\_\_

State \_\_\_\_\_ R. F. D. \_\_\_\_\_

I raise the following crops \_\_\_\_\_

\_\_\_\_\_ Acres \_\_\_\_\_



## OUR JUNIOR FARMERS

### Barley: the Ancient Bread Plant

**E**VEN the most of us today eat more barley in soup than in any other way. Barley remains an interesting grain from a historical standpoint, and a very valuable grain in many sections from a feeding standpoint.

Corn doesn't grow well every place, and just as the kafir, and milo, and other grain sorghums replace corn in some sections, so barley takes the place of corn in certain other sections. In northern Europe barley is used instead of corn to fatten pigs, and barley fattened pigs from those countries make first class pork, too. It requires only a little more barley than corn to make a pound of pork, as we have found by many experiments in this country. Naturally, a section where corn cannot be raised well, but where barley does fine, can sell its grain in the form of meat, just as well as the cornbelt can. Take it as a whole, you can feed barley practically as you would corn, so it may be well considered a satisfactory substitute.

We spoke a moment ago of the interesting history of this grain, barley. Its culture is very ancient indeed. No one knows how long ago it was cultivated, but we do know it was grown long before we have any written history of man. You remember that wheat was used in ancient Egypt; so was barley used for food, both for animals and for man. It is said to have been the principal bread plant of the countries from which we get our civilization, so it may well be called the "cereal of ancient civilization," just as we call wheat the cereal of civilization today. Until wheat displaced barley, it was "barley bread" which the people in Europe ate, right down to the sixteenth century. As we said above, wheat has become the main bread plant now, but in toppling barley from its throne, wheat had



an ally from the new world—potatoes. It was thru development of wheat raising and the introduction of potatoes that the decline in the use of barley was brought about.

Most of you who have had barley on your farms know that malting used to be one of the leading uses, if not the principal one, for barley. In many countries, it remains so today. It was also used in Egypt for the same purposes, centuries and hundreds of centuries ago. With the reduction in demand for barley for this purpose there has come the markedly increased use of the grain for livestock feeding. As said before, the grain itself is worth about as much as corn for all kinds of livestock; the straw is also valuable. It is fully equal to oat straw. It is a fine straw for bedding animals because of the quantities of moisture which it will absorb. A pound of wheat straw has been found to absorb 2.2 pounds of water, but a pound of barley straw has absorbed 2.85 pounds of water. If you were compelled to buy straw for bedding it is easy to see which you would buy, if the price were the same.

There are a few byproducts of barley which find their way into the market to a greater or less extent. In the production of malt extract, malt sprouts and brewers grains are produced. Dairy men like the

# DEVOE

## VELOUR FINISH



*Walls that keep their "newly painted" look*

**Washable Walls!**

Walls that hold the charm of color and retain their freshness for years with the help of soap, water and a rag.

Such are walls finished with Devoe Velour Finish, (a flat oil paint.)

The soft, flat tints, in which this product is manufactured, are always artistic, lending an enriching background to the furnishings, and an air of good taste and dignity to the room. Devoe Velour Finish can be applied on any interior wall or ceiling.

Devoe Products are time-tested and proven—backed by the 168 years' experience of the oldest paint manufacturing concern in the U. S. Founded 1754.

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Paints  
Stains  
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Brushes  
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malt sprouts for the economical protein they supply. The brewers grains also find favor, tho there is less of proteins in that feed than in the sprouts.

When barley is prepared for human food it is hulled, and the hulled kernels are called pearl barley. This is the most common form in which barley is used in this country. The byproduct of pearl barley manufacture is barley feed. This is not produced in any considerable quantities, and at best it is a low grade feed. Another barley byproduct is barley screenings. These are ground finely and in this state make a very good feed, principally of value in the fattening rations, or to balance high protein feeds.

One of the reasons why barley is as valuable as it is, is the fact that of all the cereals, it has the widest range. It is cultivated over the greatest latitude from pole to equator. It grows as far north as a latitude of sixty-five degrees north, in Alaska; that is almost to the Arctic circle. It thrives beside the orange and lemon trees of California. With so wide a range as that, it is no wonder that barley has been an important grain.

Read what Professor W. A. Henry says in "Feeds and Feeding" about barley as a feed: "On the Pacific slope where corn or oats do not flourish in equal degree, barley is extensively used as a feed for animals. The horses of California are quite generally fed on rolled barley, with wheat, oat, or barley hay for roughage. Barley is the common feed for dairy cows in northern Europe. The Danes sow barley and oats together in the proportion of one part barley to two of oats, the ground, mixed grain from this crop being regarded as the best available feed for dairy cows and other stock. Fed with legume hay to fatten steers and lambs, barley has given nearly as good returns as corn. For horses, barley is somewhat less valuable than oats. At the Virginia station, calves made excellent gains on barley and skim-milk but corn proved cheaper. In Great Britain and northern Europe, barley takes the place of corn for pigs feeding, leading all grains in producing pork of fine quality, both as to hardness and flavor. In American trials somewhat more barley than corn has been required for one hundred pounds gain with fattening pigs. Owing to its more chaffy nature, California feed barley is somewhat lower in value than common barley. Tho barley is somewhat higher than corn in crude protein it is still decidedly carbonaceous in nature and should be fed with a legume hay or with a nitrogenous concentrate for the best results.

"Barley has less digestible crude protein than oats, and more than corn. The carbohydrates exceed those of oats and fall below those in corn, while the oil content is lower than in either of these grains."

Such, in a nutshell, is the story of barley, what it has been, and what it is. One thing sure if you are in a country where barley thrives and corn comes out a poor second, you can still fall back on barley and have bacon and hams with the best of them.

### PRIVET DIES OUT

Last year we planted a hedge of Japanese privet at the side of the house but it seems that it does not stand the winter. Practically all of this hedge is gone. Is this the fault of the plant, or would it be better to use some other plant for a hedge here?—R. C., Iowa.

Japanese privet is not very hardy and is not a satisfactory plant for your section of Iowa, or in other climates as severe. If you wish to have a privet hedge, probably the best of the privets for your use is the Russian or Amoor river privet, *Ligustrum amurense*. This is the hardiest and most desirable for sheared hedges. It will grow higher than the Japanese privet, and flowers at about the same season.

# Collier's

## THE NATIONAL WEEKLY

Vol. 69 No. 2

January 14, 1922

Harford Powell, Jr., Editor  
Loren Palmer, Managing Editor

Roger W. Rills, Asst. Editor  
Charles T. ...

## To Lift This Country Up and On

Rome fell when the people of her empire took to huddling in cities; foreigners of eminence, like the great historian Ferrero, say that the United States may well profit by Rome's example. "A nation like a man can die of poor circulation when the blood is congested in the heart." Only within the past few years has come a realization of the danger; only lately have there come into the picture those thousands and millions of slim, strong, wires along which speeds energy capable of producing more power, light, and heat than any other known force.

That energy, given its chance to work throughout the length of the land, is going to remove all danger of excessive urbanization. Day after day, given its chance, it makes the small town a better town in which to live; it brings the farm closer to the small town, putting the farmer in instant touch with the merchant who buys his product, the doctor who tends his ills, and the neighbor whose problems are as his own.

More miles of good roads, more motor-propelled vehicles, extension of railroad lines—and electricity, with its multitude of present uses and its infinite future possibilities—these will guard us forever against the perils of city congestion.

Let's become more than a nation of button pushers; we have it in our hands to become a nation that really knows something about the most tremendous force in the world.

Excerpt from Editorial in  
Collier's Weekly  
January 14, 1922

Communities having that grade of electric light and power service which is possible only when the company receives fair treatment and is "given a chance" will be found by comparison to be the leading communities in the country industrially, commercially and socially.

Also it will be found that many of the 1,600,000 present owners of electric light and power company securities are citizens of these progressive communities. Not only have they invested their savings wisely and well, but they are helping their community to grow, and its neighboring territory to develop.

## NATIONAL ELECTRIC LIGHT ASSOCIATION



## HUBAM

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**CHEAPEST AND BEST**

**65¢ per lb in any quantity**

**Buy Now!**

MICHIGAN STATE FARM BUREAU  
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**Only \$10 DOWN A YEAR TO PAY**

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**Kirtin One Man STUMP PULLER**

A. J. Kirtin Co., 2007 Lud St. Escanaba, Mich.

## CAR OWNERS

Make Bigger Profits By Introducing and Taking Orders For Our Special Oversize

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Made under new and exclusive processes. Lower prices—astonishing guarantee—larger discount to agents—exclusive territory with sales help. Write for details of our remarkable proposition—a real money-maker.

Dept. 108, INTERNATIONAL RUBBER CORPORATION, Grand Rapids, Mich.

## CLEVELAND MOTORCYCLE

**LOWEST PRICE—LOWEST UPKEEP**

of all real motorcycles. \$135. 75 miles to the gallon—15,000 miles on tires. Very light weight—low saddle—safe and easy as a bicycle. Write for Catalog "P". Some territory open for "live" dealers.

CLEVELAND MOTORCYCLE MFG. CO.  
Cleveland, U. S. A.

## \$35 for a Rimmel Concrete Mixer

An all steel and iron concrete mixer for only \$35.00. Can you beat it? A mixer that is continually in gear, will charge or discharge on either side. Mixes one wheelbarrow full of concrete every minute and a half. Order direct from this ad or send for descriptive circular.

REMMEL MFG. CO.  
Dept. S. Kewaskum, Wis.

## We Pay \$7 a Day

taking orders for Insula Tyres—inner armor for automobiles. Positively prevent puncture and blow-outs. Guaranteed to give double tire mileage. Use over and over again. Old worn-out casings will give three to five thousand more miles service. Enormous demand. Every auto owner a prospect. Write quick for agency.

AMERICAN ACCESSORIES CO. B-1289 CINCINNATI, OHIO

### Round the World Cruise \$1000, and Or Palestine and Egypt \$600 and up. Address: Jaa. T. Nichols, U. P. Sta., Des Moines, Iowa

## BOYS' AND GIRLS' CLUB DEPT.

*Ownership for Boys and Girls*

**HOW THE PLAN WORKS OUT**  
During the past five years thousands of boys and girls have been helped thru our loan service. Some have built up splendid flocks of poultry, others herds of hogs, others a dairy herd and many now have sheep. Other boys and girls have been helped thru school or in other ways.

Here is a letter from Max McLaughlin, Jasper county, Iowa, who wants to finish his high school education. A copy of our loan plan has been sent to Max and we are going to back him up in his worthy ambition. Our boys and girls will be glad to read Max's letter:

"My father has taken Successful Farming for some time, and in it I read of your helping boys and girls to get a start by loaning them money. I am sixteen years of age and have gone to high school two years, but last year I had to stay at home. I am very much interested in poultry and I believe if I could get a loan from you of about \$50, or even a little less, I could make enough money to start to school again this fall, and at the same time get a start in poultry. I have a 240-egg incubator, which I could use to hatch my chicks. I would like to get just a few hens and a rooster, as well as some eggs or baby chicks. I like the Rhode Island Reds or Orpington pretty well. If you could favor me with a loan such as mentioned I would be very grateful to you. I will also feel thankful for any advice you have to offer concerning stock. Awaiting your reply. — Max McLaughlin, Jasper county, Iowa."

Two weeks later Max wrote as follows:

**"Father Helped Me"**  
"I received your letter containing plan of loans and contract. I had it all filled in and ready for my father to sign when he decided to let me have one of his bred sows instead of borrowing money to get one."

"I want to thank you very much for offering to loan me money. Altho I did not borrow the money from you, I feel sure that I would not own a sow now if I had not gotten my father to read your letter and got him interested."

"Enclosed please find twenty-five cents for which please enter my subscription to the Farm Boys' and Girls' Leader for one year."

### SERVES THE WHOLE FARM FAMILY

Many letters are received by the club editor containing words of appreciation for Successful Farming. Many calls come for our boys' and girls' paper and loan plan, all of which render service to the boys and girls and farm folks.

The following letter from a Texas mother, Mrs. Joe Burke, illustrates this service:

"Will try to get up a club of subscriptions as soon as I can and send in. I paid for two years last year, but some way didn't get credit for it, but nevertheless we won't fall out about it for we surely want Successful Farming to keep coming, and will send in my subscription as soon as I can."

"And I want the Farm Boys' and Girls' Leader for my children. Three of my girls are very much interested in your loan so please send them blanks and full particulars. Can more than one in a family get a loan?"

### APPRECIATES S. F. AND CLUB PAGE

"Enclosed you will find a cartoon drawn by myself showing how I appreciate your paper, especially the boys' and girls' department. I read every line in this one department."

"I am a boy seventeen years of age. I live on the farm. I like farm life."

"I think your paper is one of the best I have ever read.—Cletis Eskew, Stephens county, Okla."

### WIRELESS IN SUCCESSFUL FARMING BUILDING

From fifteen to twenty-five inquiries about wireless have reached the club editor's desk daily during the past few months. These have been promptly answered and we will be glad to hear from others desiring to know about the cost and installation of wireless and the radio phone. This new invention is going to bring grand opera, concerts, sports, news of the day and markets right to the farm

door. Outfits cost from \$14 and \$17 to \$250, but \$42 to \$50 will cover the cost of a satisfactory receiving set.

Junior Meredith, son of our publisher, has installed a very fine receiving set in Successful Farming building. Junior will be glad to hear from any friends who have transmitting outfits. He is going to give wireless parties to Successful Farming folks and friends. Let us have your wireless inquiries.



### PRAISE FOR WILLIAM WORDLEMAN

Here is a letter from a live Kansas farm girl who likes farm work. The club editor believes she is right when she says William Wordleman, whose story appeared in our last number, knows as much about farming as some farmers.

The following letter from Miss Ruby Ekhoft, of Kansas, displays the right spirit. We are glad to publish her letter and have sent her our loan plan. It is a pleasure to help live country boys and girls get started for themselves. Here is Ruby's letter:

"I have read the boys' and girls' club department thru about a dozen times and I bet that William Wordleman knows more about farming than some farmers I know. Last summer and the year before I drove our tractor in the harvest fields. We pulled the header with it. I am pretty sure of the same job this summer. I would lots rather work in the field in the summer, even if it is hot, than work in the house."

"I was seventeen two weeks ago. I like to be around horses and cows and I think I'll get a calf to raise. I like chickens but there is an awful lot of work to do around them. But everybody says work is good for what ails you. I would like to hear about your plan for loaning money. Lots of times I wish I were a boy. I could do more then. Waiting to hear from you, I remain—Ruby Ekhoft, Kan."

### GETTING STARTED WITH LIVESTOCK

I read your sample copy of Successful Farming. Have read most of it already and can promise you my subscription. Have read your page of club work for boys and girls. I have a sow and four pigs, all good stock, a yearling full blood Jersey heifer eligible to registry, a horse and a young Delaware ram. All of these are my own for which I worked and paid with my own money.

I would like to join you club for boys and girls, also would like to know of your loan plan as I would like to purchase some purebred ewes.—Harvey R. King, Franklin county, Ohio.

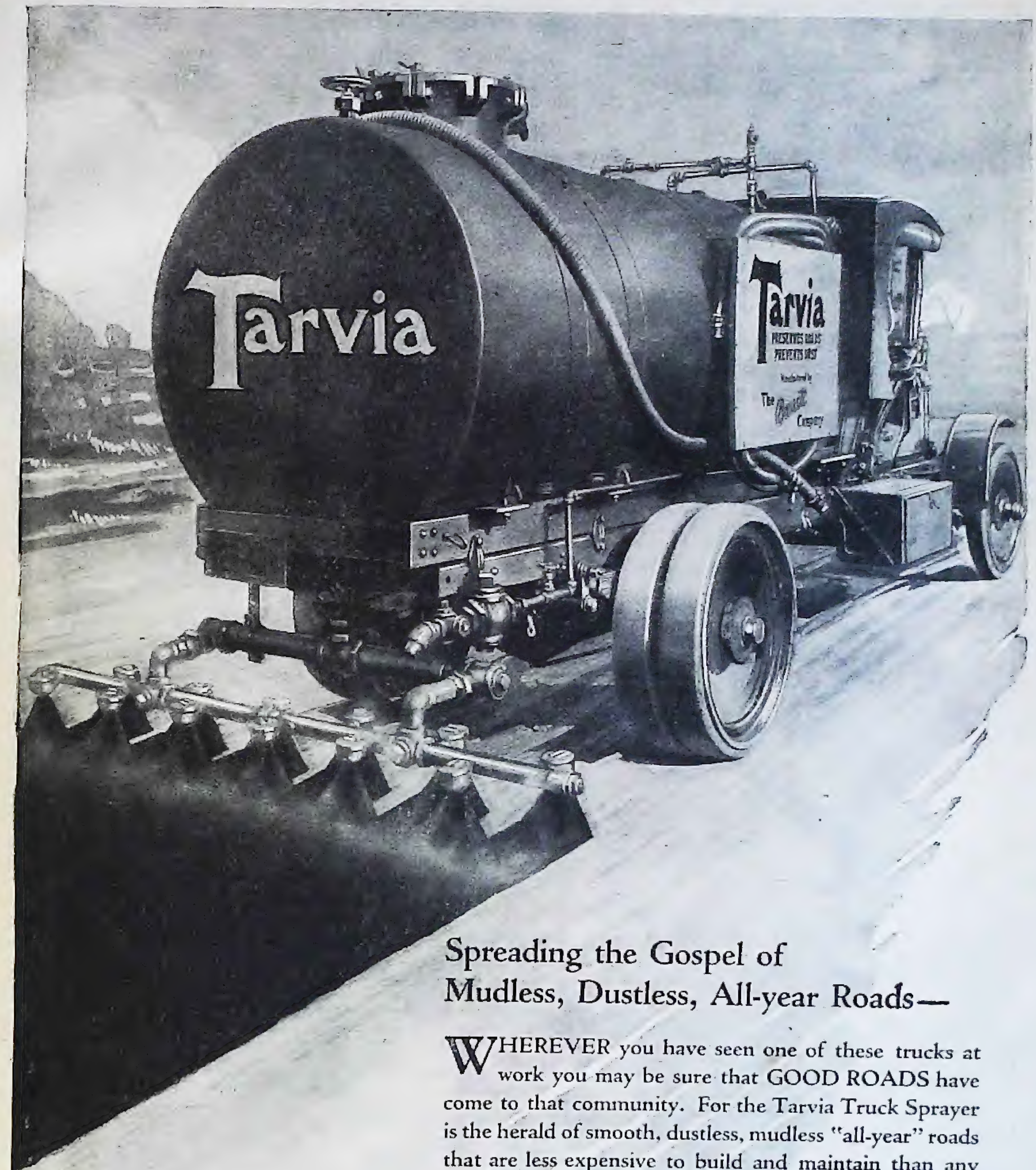
### "OUR BOY IS INTERESTED"

Our eleven-year-old boy, after following very closely the boys' and girls' department of Successful Farming and being very much interested, asks his mother to write a letter to you and find out all about this club work. There is no club in this community and our agricultural agent has not called on us. We have been too busy to look him up. Will you please tell us how to start a club in this place?—Vere A. Wilton, Ottawa county, Mich.

[Club Editor's Note: Where it is desired to organize or start a club, you should write to your state club leader at your agricultural college or see your county agricultural agent.]

### RECEIVED MY CHECK

I received my check and was very glad. I thank you very much. I guess you thot that I was never going to write to you, but I had to wait on my county agent to get the picture taken and then I waited a very long time before the pictures came.—Harry H. Sommer, Okla.



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# THE KIND OF HOGS THAT SELL

*What the Public Want and How They Want It*

By JAS. E. DOWNING



IN the manufacture of pork and provisions for the consumer trade there is one thing impossible for the packer to accomplish—he cannot put quality into his meats unless it exists in the hogs he buys. Equally true, is the fact that the feeder cannot put quality into a hog unless it is bred there to begin with. It might well be said that quality in pork production depends on four principal factors: firmness of flesh; texture, intermingling of fat and lean, and flavor. The packer can affect the last named factor to a limited degree; the feeder can influence the first by intelligent feeding, but the texture of the meat, both lean and fat, is something inherited.

These facts were well brought out in a recent experiment made at one of the large mid-western agricultural colleges. A purebred boar was bred to a purebred sow of the same breed. Another purebred sow was bred to a wild boar. The litters from the two purebred sows were raised in the same yard and fed on the same rations and the pigs sired by the wild boar grew as fast and when butchered dressed as much meat as the purebreds. Most people, no doubt, would jump at the conclusion that there is not as much to a purebred sire as has all along been claimed for them, but the true test of meat is not in looks, nor the texture, nor the percentage of edible meat in a carcass. The true test is in the frying pan. A good wood fire and a frying pan will deliver a lecture on quality not found in books and that cannot be obtained in any other way.

After the pigs were dressed some of the meat was distributed among several of the professors to take it home, cook it, eat some, and report. All reported favorably on the meat from the purebred carcasses and all likewise condemned the meat sired by the wild boar as being tough, coarse, stringy, and "punk" in flavor.

The time has gone by when farmers can raise any old kind of hogs, fatten them and expect to get the top of the market. Hog raising is now listed as a highly specialized industry. The farmer who continues to market his corn crop thru the medium of scrub or grade hogs, is fooling nobody but himself, if he expects to get as much as his neighbor who sends purebreds to the packer. The big problem in producing pork for market today is no longer the matter of carcass yield in terms of percentage, but of carcass yield in terms of the kind of cuts the market demands. The determining factor in a hog's value is what he can yield on the cutting table and the principal cuts for which he must prove his merit, are the hams, bellies (bacon sides), picnics (shoulders), and loins.

Time was when there was not much demand for bacon. It was used mostly in camps, by contractors, and for supplying

the labor in the South on cotton plantations. Today it is a prime favorite with the packer. The belly in greatest demand by the trade should average about one and one-half inches thick and eight to ten inches wide. The best weight is six to eight pounds with some city trade running as low as four to six pounds and some Eastern trade preferring eight to ten pounds. The bellies that rank highest show no wrinkles, are not too heavy in the hide and show the firm, white, fat of the finished hog, properly intermingled with meaty streaks of lean.

In days gone by a ham was a ham. Fat hogs for the family on the farm to supply plenty of lard, also produced heavy hams. This custom holds good in the South on the plantations, today, but in the North, city trade has established a demand for a small ham. The ones in general demand weigh from eight to ten pounds and another class from ten to twelve pounds. They should be smooth, meaty and of fine firm texture. The plump little ham of the young hog is the most desired, with about an inch of fat preferred at the center. Picnic shoulders should weigh from four to ten pounds and should conform to ham standards.

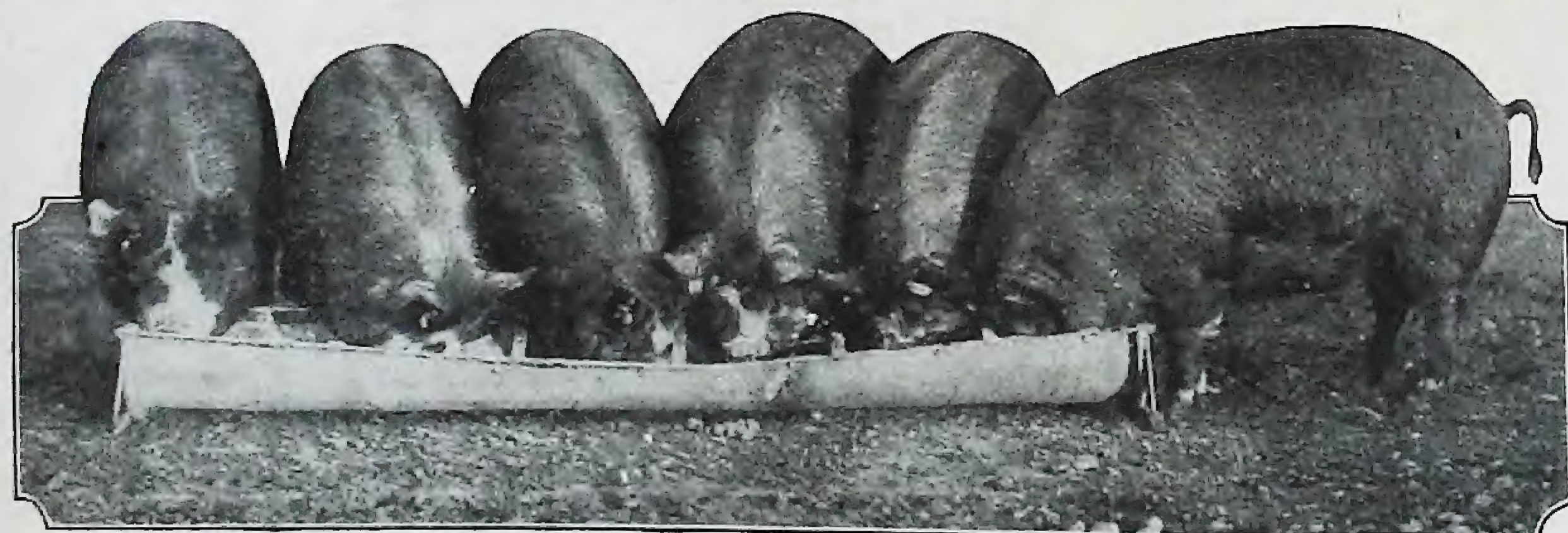
The loin is the principal product sold fresh these days and should weigh from eight to ten pounds in order to cut from four to five chops to the pound. The eye of meat should be thick round and bulging, so as to give an attractive shape. This last characteristic is related to the squareness of top and arch of rib in the live hog. People living in the city as a

rule like pork. They like the flavor and the texture of pork better than any other meats because it is never tough, like beef, stringy, like mutton, nor does it have the waste of fowls. Its flavor is most appetizing and the great variety of dishes from fresh, cured and smoked parts, offers an array of changes not found in any other meatfood animal. But people of sedentary habits cannot consume it in quantities nor for indefinite periods. It's too heavy for them. The average business man confined to his place of business for six days in the week and unable to get out but occasionally, does not have a constitution that can handle pork chops often. He likes them and so does his family, but they cannot handle them, if fat.

All this must be taken seriously into consideration by the packer and the farmer as well. From 1910 to 1920 city population increased 46.50 percent while the increase in people who moved to the country to live was 3.1 percent. What the man in town craves and what his family likes is what the packer must find and deliver in just the form it will sell best. What the packer needs, the farmer must provide and the more nearly he provides a carcass which will cut (Continued on page 70)



This wild looking fellow mated with a purebred sow produced the pigs shown above.



Note the difference between these purebred Berkshires and the fifty percent purebreds shown above.

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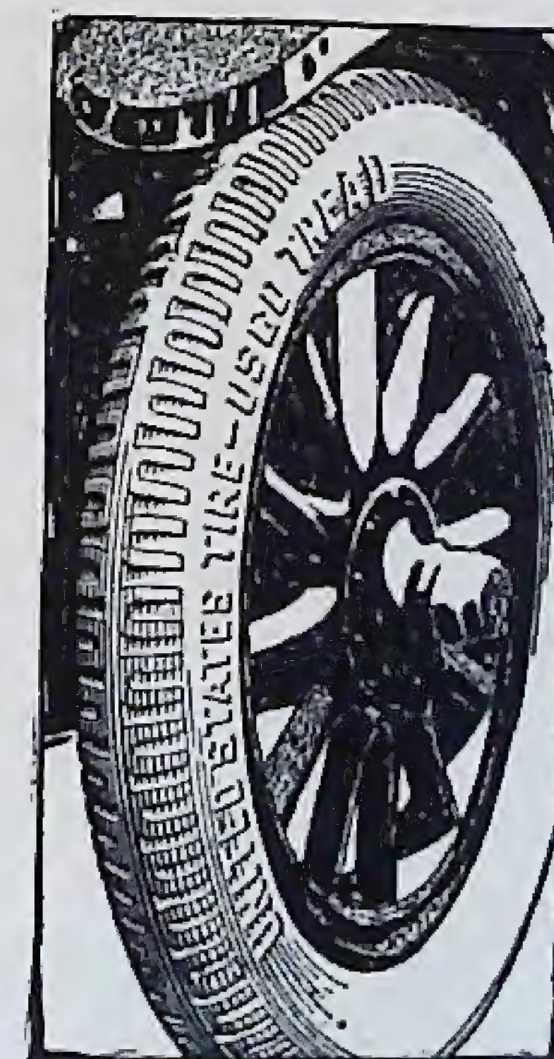
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### RAISING MOTHERLESS LAMBS

One of the many problems that confronts the sheep raiser each spring is the care of the motherless lamb. There are a good many ways of prevailing on the ewe to own her lamb, but none of them are specifics, and often one has to resort to all sorts of devices before he succeeds. At the best, success is only attained by the most patient, persistent effort.

The first step is to confine the ewe with her lamb, away from the sight and hearing of the rest of the flock, if possible, and then several times a day, compel her to stand and let the lamb suck. At first, if the lamb is weak and helpless, she may have to be held, but as the lamb grows stronger and more able to help himself she can usually be cornered and made to stand. A sharp switch may be found useful, by cutting her sharply across the nose when she fights her lamb or refuses to stand. She will soon learn that the only way to escape punishment is to stand quiet while the lamb takes its nourishment.

When the ewe learns to stand with the boss at hand, the battle is nearly won, and in a few days she gives up and can be turned with the rest of the flock; but it is best to watch her for a few days as she may desert the youngster. It is well to watch for this as she may need a second term of imprisonment to work an absolute reform.

A lamb can be easily raised by hand, but it costs more in milk than it is worth, to say nothing of the work; besides a hand-fed lamb is a nuisance.

About the most hopeless case is that of refusal to own one of a pair of lambs. A good way to succeed in this is to keep the ewe shut up with the disowned lamb, only leaving the favorite with her long enough to take nourishment, and leaving the disliked one by her side at all times.

If a ewe loses her lamb she can usually be made to adopt a disowned twin, as by proceeding as in the case of the disowned lamb. If a ewe has plenty of milk she can almost always be made to own her lamb or adopt another, but if she has no milk the case is about hopeless. Sometimes by nursing the lamb along on a bottle a few days the ewe will come to her milk alright, and be able to take care of her offspring. This is only one of the many problems that confronts the shepherd at this time of the year and success comes thru watchful, patient, faithful work.—R. N., Ohio.

### PREVENTION OF TUMORS

A tumor is a mass of new, abnormal or unnatural tissue replacing muscle or gland tissue, and impairing the function of a part or wholly destroying it for production purposes. Some tumors are cancerous and incurable; but these are comparatively rare in farm animals. Common tumors often are preventable.

One of the commonest tumors met with is a fibroid growth occurring in the muscles of a horse's shoulder. It is caused by bruising due to a tight or ill-fitting collar. In the first place a small sac of pus forms deep down in the muscle and gives rise to a large, hot, painful swelling. The owner rarely suspects the presence of pus in such a swelling, and therefore treats the condition by applying liniments, lotions or a blister. The swelling then subsides, if the quantity of pus is small, and the latter may be resorbed. More com-

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monly, however, Nature surrounds the sac with a fibroid wall which goes on growing until it forms a large, hard tumor, which swells and becomes painful every time the horse is worked.

To prevent formation of such troublesome tumors, the knife should always be used to liberate pus in a swelling of the shoulder such as we have described; then tincture of iodine should be injected and the cavity packed daily with a rope of oakum saturated with equal parts of pure turpentine and raw linseed oil. A tag of oakum should be left hanging from the wound to serve as a drain, and lard or cheap vaseline freely applied to the skin under the opening to protect it from the turpentine.

Another form of tumor, called a scirrhus cord, sometimes forms in the scrotum of a pig after castration, and may grow so large that the animal is damaged or ruined for sale in the market. It is caused by making too small an incision in the scrotum, and leaving the cord so long that it is caught between the healing lips of the wound. A growth then starts on the end of the cord, and, being richly fed with blood, grows apace. In some instances the wound is invaded by a fungus, known as botryomycosis, and an even worse tumor results. These botryomycotic tumors, or scirrhus cords, are more common in colts than hogs.

To prevent such tumors, free incisions should be made in the scrotum, and in such a position that they will drain perfectly. The cords, in little pigs, should be pulled out, and in older ones severed by scraping, or use of an emasculator or ecraseur, so high above the testicle that the cord will not become caught and adhere to the scrotal wall.

The only successful treatment for shoulder and scrotal tumors is to remove them by dissection. Hogs do not well stand such an operation, and a horse has to be retired from work for some weeks when it is done.

A hard, painless tumor seen above a rear quarter of a cow's udder may indicate tuberculosis, and the milk of such an udder is dangerous to man or animals. Other tumors of the udder result from attacks of garget, and may be taken to indicate the likelihood of a subsequent attack of the disease, which may spoil a quarter or the entire udder for milk production. Prompt, intelligent treatment of garget usually prevents formation of such tumors.—A. S. A.

### PASTURER'S LIABILITY

Below we give a summary of the decision of the Oklahoma supreme court in a recent case concerning the responsibility of one who receives stock of another for pasturing. It is in line with what courts thruout the country generally hold:

One with whom cattle has been left to pasture does not assume liability as insurer, in the absence of a contract to that effect, and is not liable for loss of the cattle if he has exercised ordinary care for the safe-keeping of the cattle while under his control. He is not relieved from liability to return the cattle because they have been lost by straying from the pasture or stolen, unless he exercised ordinary care for their safe-keeping. Where the owner of cattle left them in the exclusive possession of another to pasture, shows that he left the cattle with such person in good condition, and that the latter has failed to return part of the cattle, such evidence makes a prima facie case for the owner, and in such a situation it is incumbent upon the pasture owner to satisfy the jury by the evidence that the loss of the cattle was consistent with the absence of fault on his part.—A. L. H. S.

A fire extinguisher beside the oil stove, in the car, in the barn, and wherever there is much danger of fire, may prove mighty valuable

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Your farm produce used for purchasing a Prest-O-Lite Battery at today's price would go as far as it would have gone in buying any standard make of battery in the days of your highest price market.

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### CLEANLINESS IN HANDLING HOGS

A visit to many farms would be sufficient to convince anyone of the need of cleaning up the lots and buildings where the hogs are kept. While I know that it is almost a constant task to keep the feeding and watering places in particular clean, yet I know that it can be done with a relatively small expense if simple equipment is purchased and delay in filling holes is avoided.

As a matter of fact, it is the placing of sows and pigs in small pens in which they must eat and sleep that most often results in insanitary surroundings. It is next to impossible to keep such places clean, unless the floor be of concrete and how many farmers have such floors? So, observation has led me to conclude that the first great improvement that can be made from the standpoint of sanitation on farms where but from one to three brood sows with their litters are kept would be the building of pastures, even tho' but of half an acre to an acre. The cost of building such pastures, tho' the farmer live on a rented farm, would be repaid in a short time. This pasture should not be located where it will soon be full of hog wallows but, on the contrary, be on well-drained land. Shade in it, even tho' nothing but a home-made shelter is vitally important as is also a good water supply.

While it will probably not be possible on some farms to get rid of all hog wallows in the pasture during rainy periods of the year, yet these may be kept far more sanitary than they usually are by using such materials as crude oil, dips, etc., in them. I know some farmers who are able to control lice on their pigs and to raise good hogs by using these precautions under such conditions. But, personally, I endeavor to keep away from the hog wallows to the largest possible extent, because I feel that they are hotbeds for disease and have little or no value even in the warmest weather.

In the next place, a decided general improvement in matters of sanitation would be the more extended use of hog waterers. Even tho' the ordinary water trough be disinfected regularly, say once each week, it is almost impossible to keep it clean where pigs are fed as well as watered in it. It doesn't make any particular difference what kind of a waterer is used but it should be high enough off the ground to prevent the pigs from getting their feet into it, should provide a regular supply of water without frequently becoming clogged with dirt or feed, and be easily cleaned. Steel tanks with the water flow from the storage tank to the drinking fount regulated by a vacuum arrangement have given me better satisfaction than those regulated by valves.

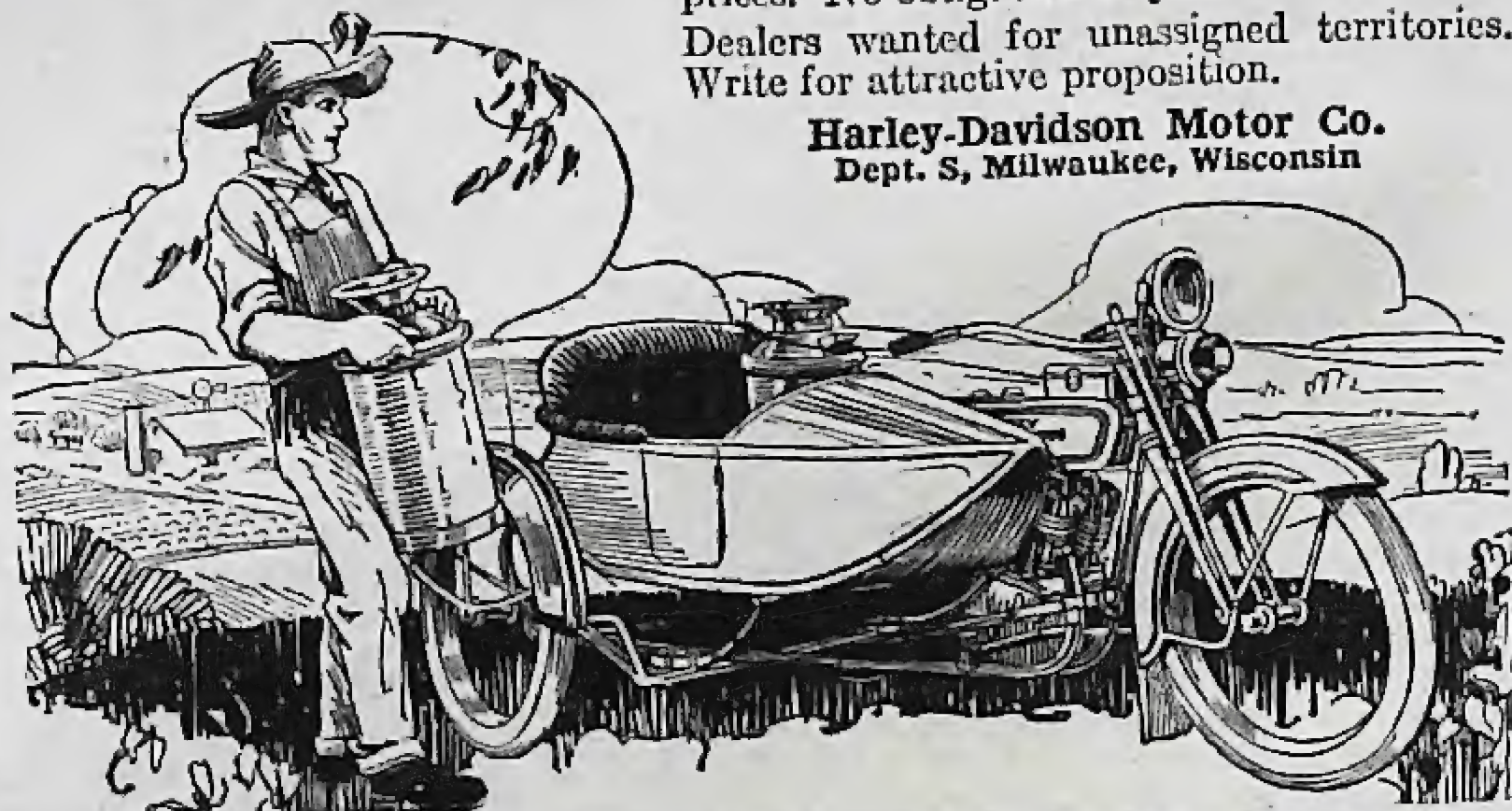
If the farmer cannot afford the outlay for an automatic steel tank or for constructing a concrete one, then the placing of a fountain on a barrel will be far better than relying upon troughs. Of course, in some cases troughs must be used, as in individual farrowing pens in hog houses and where but one or two pigs are kept. These should by all means be disinfected regularly and one trough be provided especially for water. Attaching a board lengthwise from three to six inches above the center of the trough will prevent hogs from lying in the water and thereby keeping it contaminated. But, there are far more farmers who could afford and would find it profitable to have automatic drinking fountains than have them. These men would find that the cost of buying such waterers would be repaid in decreased labor and faster hog growth in a short time.

Again, the failure to remove old bedding

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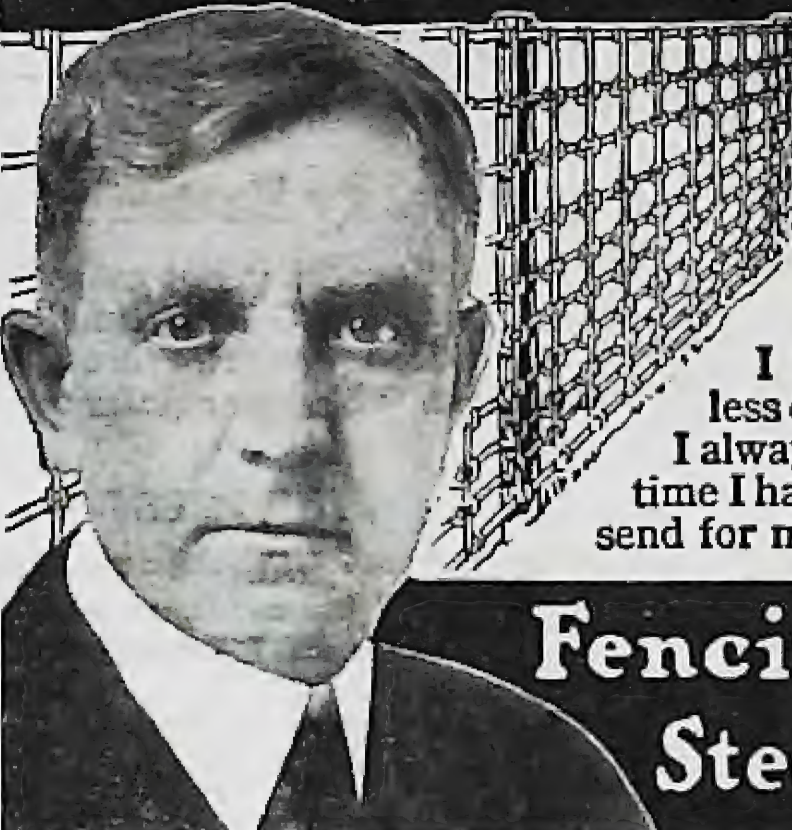
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and allowing hogs free access to such places as old straw piles, old manure piles and similar places is one of the commonest sources of disease. In winter, when hogs regularly use the houses provided for them, or other places where they may bury themselves in bedding, care is of especial importance. Bedding should be changed at least once each two weeks and once a week would be better. It is desirable to fence the hogs away from such places as old straw piles.

I wish to refer particularly to the especial need of cleanliness in the farrowing pen and in the lots where sows and their litters are kept. Careful methods of sanitation here will result in holding in check diseases in the pigs and intestinal round worms above all else. Much of the slow growth and many of the stunted pigs can be traced directly to the infestation with worms obtained soon after farrowing. Cleanliness in the farrowing pen implies that every part of it be washed or sprayed down before the sow is placed in it to farrow and even that the sow be washed off just before farrowing time. It implies further that all parts of the lots be kept free from wallows and to the greatest possible extent be sanitary. Crude oil, dips, lime, etc., are all used with good effect.

If it were practical for all farmers to have the necessary equipment, including portable houses, lots, etc., so that they could always place their brood sows before farrowing on new ground, the extreme care in cleaning up the farrowing places would be largely avoided, but such is not the case. It is, therefore, I repeat, of the greatest importance that clean quarters be provided at all times for the brood sow and her litter. If the pigs get a good start I feel that they are a long way on the road to being profitably produced.

Finally, there comes the matter of quarantining newly-purchased hogs before placing them with the herd on the farm. I know of farmer after farmer who has brought disease to his farm by buying pigs and immediately placing them with his other stuff. It is vitally important that hogs that are purchased even from places that appear to be sanitary be kept to themselves for a period of about three weeks before they are placed with the regular herd.—A. C. H.

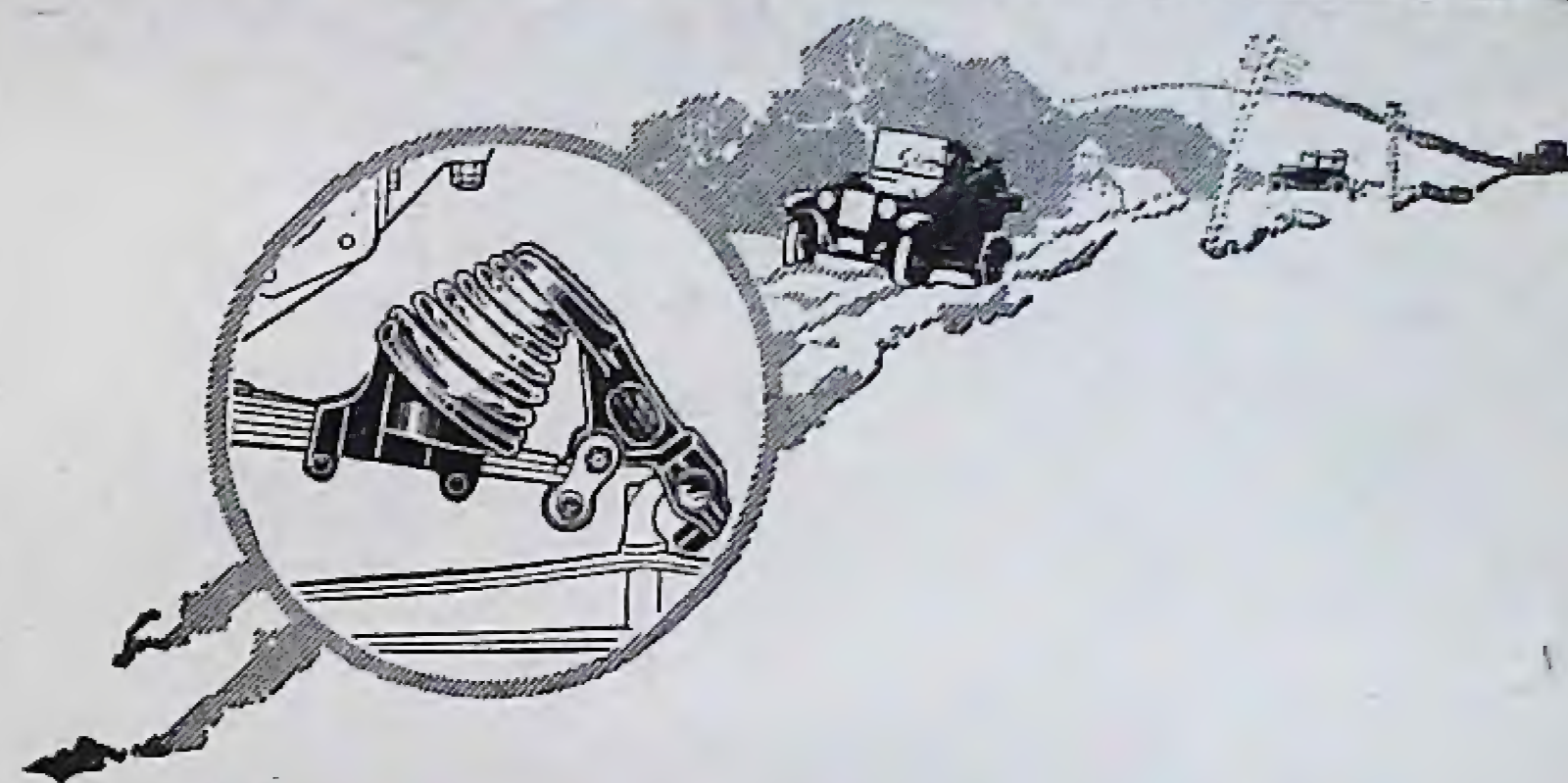
### LOUSY PIGS MAKE LITTLE PORK

Hogs cannot make both pork and lice, and the lousy pig can seldom eat enough to make a hog of himself, if he has to continue boarding myriads of lice. This has been the unvarying experience of good livestock men everywhere.

Lice may be destroyed on hogs by dipping, the use of crude oil being highly recommended by those who have experimented widely. Let the water in the dipping tank be covered with a layer of crude oil at least an inch thick. The oil may be applied to the bodies of the hogs with a sprinkling pot or a swab, if care is used, but it is not as safe as we would like, and in any case, it is a method recommended for use only in cold weather, when dipping is out of the question.

Also there are a number of other remedies which may be used, such as equal parts kerosene and machine oil, or one part turpentine to two parts machine oil applied to every part of the body by means of either rag or brush. Be careful in the use of such remedies of course, or they might be almost as hard on the pig as they are on the lice. Do not lose sight of the good high grade coal-tar dips, which are certainly valuable when applied according to directions. The oiler, or oiled rubbing post has a place on every hog farm, or farm where hogs are raised.

Do not hesitate to ask for information about anything advertised in Successful Farming. Every advertiser is backed by Successful Farming's guarantee of reliability.



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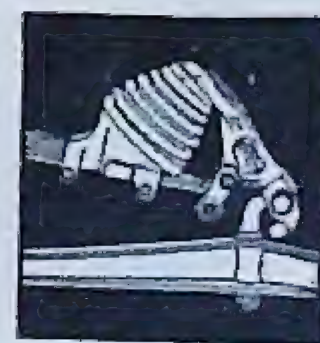
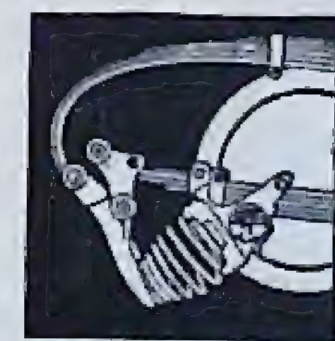
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### DEPRAVED APPETITES

Several cases have been reported lately of cattle that were eating unusual articles such as wood and paper. One herd had the misfortune to lose two cows and when we examined the carcasses several pieces of wood and a few nails were found in the stomachs. Naturally the owners want to know why the cattle eat such unusual food and they also want to know why they will chew at mangers and feed bunks.

This depraved appetite is often called "stump sucking" and is frequently seen in young animals and in breeding animals. The dairy cow suffers much from it. Sometimes the district the animals live in has a lot to do with the cause of the trouble, as I know some places where the soil and water fail to provide the necessary mineral matters for them to make normal bodies from the foods produced. Animals that are growing need an enormous amount of mineral matter to supply the body needs for bone making material especially. Breeding animals need heavy mineral bearing rations for the same reason, while the dairy cow gives up much of the protein of her food and the minerals as well if in heavy milk flow. All this dictates the absolute necessity of giving particular attention to seeing that the mineral matter of the ration to these kinds of animals especially is well taken care of. Neglect to do it has as a result depraved appetite, stunted young animals, weak and crooked bones which we call rickets and sometimes enlarged heads among the young or pregnant animals. They are seldom in good flesh and on death the meat often has a watery appearance and the blood seems thin. Foods raised on soils rich in limestone do not as a rule permit these things to occur if they are reasonably well balanced or if the animals are allowed the run of the pastures, but it is the sandy, thin lands that have been heavily cropped or the heavy peat soils that show the most of it. I have seen it too in some parts of the country that had for a water supply only the snow water of the mountains that flowed over basal rock carrying no lime.

There is no drug that is a specific for this trouble, but it is easy to correct it nevertheless. Pregnant females, growing animals, and heavy milking cows all need mineral matter in abundance in the ration and all for the same reason to replace minerals that have been either given up to the function they are performing or to build greater stature in the growing animal.

The feeding of the minerals needed by the body can be accomplished in many ways. In some places where it is well known that calcium is the mineral the common feeds are deficient in, the placing of lime in the drinking water is enough. In other places the importation of hays that are grown in other districts solves the problem. For instance, it is estimated that alfalfa carries about sixteen pounds of calcium as a rule for each ton of dry hay, so feeding a ton of this hay would for a long time provide the mineral matter that an animal might need and leave some to spare. Where there seems to be a deficiency of phosphates it would be desirable to feed bonemeal or if this is not possible to arrange the production of feeds so that some provision is made to have root crops on hand to use during the winter for most of them carry phosphates in greater quantities than the grasses. This is especially true of the rougher, coarser grasses that are raised on low, swampy lands.

### FERRETTED FACTS FOR FARMERS

Continued from page 8

W. S. Fielding, in a conference with Chairman Porter McCumber of the senate finance committee and Chairman Joseph Fordney of the house ways and means



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committee. Whatever arrangement is reached as to the treatment to be accorded specific Canadian commodities there is no likelihood of "general reciprocity."

### Status of Price Stabilization Bill

During the past month hearings have been in progress before the senate committee on agriculture on the bill of Senator Ladd of North Dakota which proposes that the government should fix a minimum price for wheat, shelled corn, raw cotton, and raw wool produced in the United States for four years beginning with the crop of this year.

So far the farm bloc has refused to take up the measure as part of its program of legislation. However, the measure stands a very good chance of being reported to the senate but if the bloc refuses to sponsor it as part of its program the chances of its passage are small.

### I. C. C. Can Fix State Rates

A decision handed down by the supreme court of the United States on February 28 assumes big importance in connection with efforts now under way to secure the restoration of state railroad commissions over state rates. The recent decision of the supreme court upholds the right of the interstate commerce commission to regulate state rates under the Transportation act. The decision was unanimous and to the effect that the state boards are subordinate to the interstate commerce commission because the right of the country as a whole in regard to transportation is superior to state's rights of intrastate rate control.

### Radio Telephone Regulations

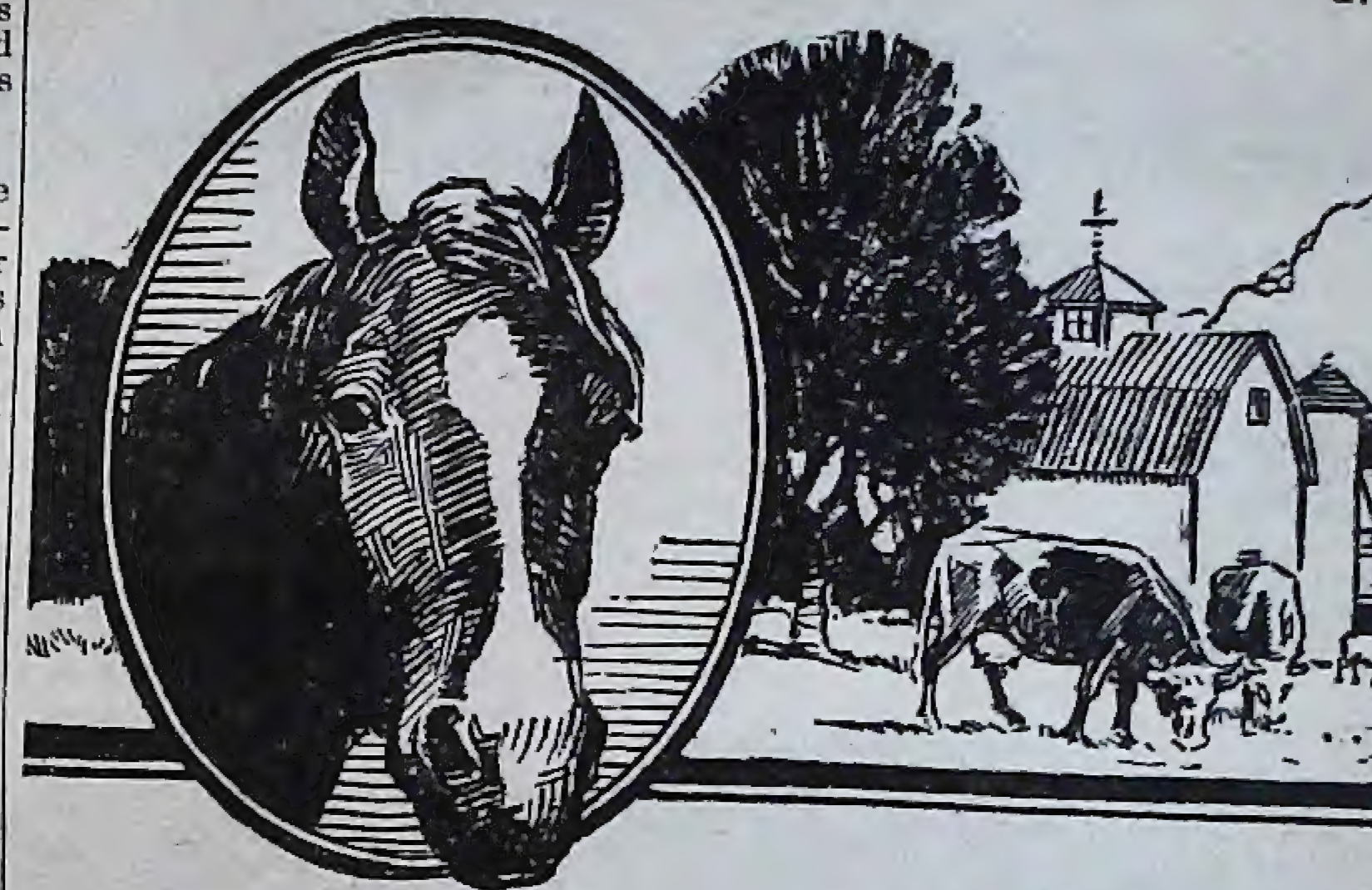
Radio experts called together by Secretary of Commerce Hoover to regulate the use of the air for radio telephonic purposes agreed that the most valuable service now being rendered by the radio telephone lay in the broadcasting of weather, crop, and market reports for the benefit of the farmer who is often cut off from contact with the outside world. The use of the radio, it was pointed out by W. A. Wheeler, representative of the United States department of agriculture at the conference, will furnish a guide in the proper conduct of agricultural business. "There is no single use of radio except for marine aerial purposes that should take precedence over its utilization for agricultural purposes."

### Effect of Drop in Farm Wages

Altho farm wages in the United States have dropped thirty-seven percent during 1921, according to the latest statistics available, the farmer-employer realized no profit thereby because prices of farm products dropped correspondingly. Latest reports as to the prevailing wage rates for farm labor give \$43.32 per month without board and \$30.14 with board as the average. Wage rates for 1921 are still about forty-five percent above 1913 levels. The sharpest decline of the year was in the south and in the north-central states west of the Mississippi.

### Wool Industry Unsettled

Unsettled economic conditions thruout the world are reflected in the wool industry, where demand and supply continue unbalanced, according to a survey of the United States department of agriculture. Large stocks of wool exist in practically all the leading wool producing countries, while consuming nations, who are back to a pre-war basis, are unable to obtain stocks. The supply in the principal consuming countries is less than has been recorded for some time, and is, according to the department, insufficient to meet present demand. Stocks of unsold wool in the United States, Great Britain, France and Germany are less than at any time in the past ten years, due to the continued demand for fine wool during 1921. Altho the total world wool production during pre-war years was just sufficient to meet the demand, the present sheep total of the world is only about ninety percent of 1913, while demand has increased steadily.



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### TREATING CUT KNEE

When a horse falls and wounds a knee correct treatment is imperative else the joint may be permanently stiffened or left with an unsightly scar. The fact that the joint is difficult to keep rested, makes healing tardy, but the chief cause of failure to accomplish complete and practically scarless healing is imperfect cleansing of the wound just after occurrence of the accident. Better success will be had if the following instructions as to treatment are carefully followed: Clip the hair from the entire joint and for a space above and below the part. Perfectly cleanse the skin and wound with soap and hot water. Clip off all shreds and ragged bits of flesh and skin and remove every particle of grit, earth, sand, grass, chaff, manure, or other foreign bodies, even if it takes an hour or more to accomplish this. If a single bit of such substance is allowed to remain in the wound it will cause irritation, inflammation and probably formation of pus. A large scar will then be sure to result. The wound is then to be wetted with a 1-to-1000 solution of bichloride of mercury (corrosive sublimate) or with a saturated solution of boric acid and painted with full strength tincture of iodine. When this has been done the wound should be dusted with a mixture of one part each of calomel and subnitrate of bismuth and six parts of finely powdered boric acid to be held in place by means of a layer of sterilized cotton upon which more of the powder has been sprinkled. The part is then snugly bandaged with clean unbleached muslin or cheesecloth in strips three inches wide and a yard or two long. The horse must now be tied up short so that he will be unable to lie down or move back and forth, or better still he should be supported with veterinary slings. If the wound was a deep one a long, padded splint or brace may be fastened to the leg from foot to elbow, to prevent motion of the knee joint until healing is well under way. The dressing has to be renewed daily. If joint oil (synovia) is seen to flow from the wound at the first time of dressing, home treatment will not suffice. The condition is a desperate one and a qualified veterinarian should at once be employed to conduct the treatment.—A. S. A.

### BIRDSEYE VIEWS OF FAR LANDS

Continued from page 14

building covers four acres of ground and originally had seats for 87,000 people and standing room for 15,000 more.

My, the memories that flood one's mind as he walks about this great arena! Here were held the great gladiatorial contests to which reserve seats sold for as high prices, perhaps, as the seats for the more recent Dempsey-Carpenter prize fight in Jersey City. Here multiplied thousands of Christians fought with wild beasts until their bodies were torn to pieces. Yonder is the gate that flew open when the signal was given and huge lions, which had been without food for days so they would be ravenous, sprang out and upon the helpless victims. Over there is the "Gate of Death" thru which corpses were drawn by great hooks. It is said that at the dedication of the Colosseum nine thousand wild beasts and ten thousand human beings were slain.

Up yonder is the box where the emperor and his great men used to sit. In imagination one could see the gladiators as they marched toward him crying, "Hail, Caesar! We who are about to die salute you!" Then the fight was on. The white sands of the arena became red with

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blood. At times the water gates were opened and the arena flooded and gladiators fought from boats.

While standing there I could not help thinking of the last gladiatorial contest ever held in that arena. It was a memorable day. One hundred thousand people, perhaps, were there. As the contest went on two stalwart gladiators were alone, trying to stab each other to death. Up among the thousands was a Christian monk who could not stand the sight of bloodshed any longer. He jumped to his feet, ran over the backs of seats to the aisle and down to the railing, springing over it eleven feet down to the arena, ran between the men and broke up the fight.

But the people would not stand having their pleasures interfered with in any such way. They were so enraged that they killed this man—Telmachus was his name—on the spot. But the next day Rome woke up as the people deplored the martyrdom of this brave man. Influences were then brought to bear so strongly that out from the royal palace went the decree that never again should a gladiatorial contest be held in the Colosseum at Rome and it is said that these bloody scenes were thus abolished forever.

Of course I went down into the Mamertine dungeon where Saint Paul spent so many lonely hours. It is really like a great cistern with an opening at the top less than three feet in diameter. In the widest place the room measures about fifteen feet. A stone seat and shelf are there. It is cold, damp and gloomy. At the present time there is a stairway down into it, but in the old days prisoners were thrown in from the top.

Down the Appian Way a few miles is the entrance to the Catacombs. You go down into these underground caverns from the inside of an old church. A monk acts as the guide and you must stay near him. Never will I forget this experience. Here are thousands of rooms and passages. Here the early Christians used to gather, for they often had to hold all meetings in secret. Upon their tombs are emblems of hope and it is said no such emblem has ever been found on the tomb of a pagan.

Some one told of a patriotic American-Irishman who always, when traveling, carried a small American flag and whenever an opportunity came would wave it saying, "Hurrah for America." This man was in Rome and decided to visit the Catacombs. His one failing was that he often imbibed of strong "spirits" and before starting took a little too much. As the company went thru these doleful places Pat fell down, dead drunk.

It so happened that the company was in a burial place where some skeletons were in the stone shelves. Not knowing what to do with the drunken Irishman, they laid him on one of these shelves. All went well until Pat waked up. When he first opened his eyes he was frightened nearly to death. Seeing the grinning skeletons he jumped out of the shelf, grabbed his flag and shouted, "It's the resurrection morning! First man up, be-gorra! Hurrah for America!"

NOTE—These Birdseye Views of Far Lands articles have appeared in each issue of Successful Farming for more than three years. The information in them has been secured at great expense. Expressions of appreciation have come from many sources. But Successful Farming is a farm magazine and these articles do not belong to that class, strictly speaking. Do you want them continued or shall we devote the space to subjects of a strictly agricultural nature? Let's hear from you.

### HUBAM AGAIN

There is a considerable amount of discussion as to the value of Hubam. What has it done in this section?—C. M., Minn. Hubam clover has given some excellent results in your section. At any rate, one is justified in seeding an experimental plot, at least. While it has not proved a superiority over the biennial variety in certain sections, in many sections it has proved that it is a crop of the highest value.

# What does it Cost You to "Keep a Ford"?

UNLESS you have "money to burn" you no doubt maintain a close check on expenses. You know what it costs to keep so many head of live-stock; you check up on other expenses—but do you know if you're losing money on your car upkeep? Can you answer the following questions?

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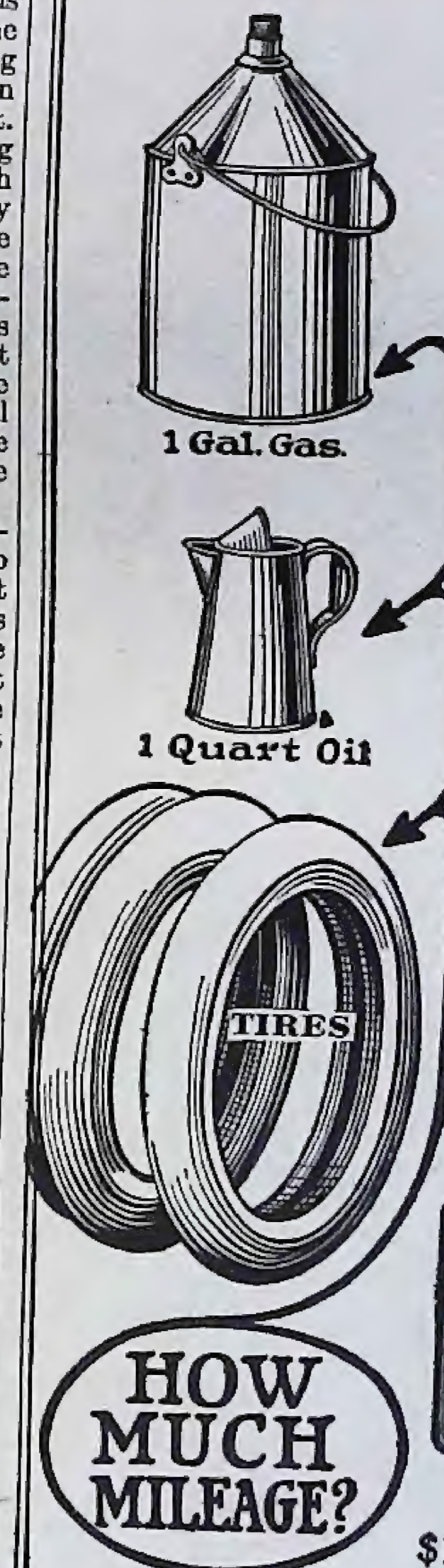
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Among his neighbors, C. G. Beaver, a Pulaski county, Indiana, farmer, has the reputation for having his brood sows farrow large litters and raise most of the pigs farrowed. He thinks the care given the boar, the feed given the sows, and especially their exercise, has much to do with the vigor and thrift the pigs will inherit. Last fall his fourteen brood sows farrowed 126 pigs and when it came time to turn these into the clover fields; there were 105 pigs to turn in.

"We do not want a male hog shut up in a little pen in filth up to his knees," said Beaver with an emphatic shake of his head. "We have tried that and we do not believe one can get full measure of litters from an emaciated, dirty, poorly fed, male hog. We give our male hogs plenty of exercise and we do not let him run with the herd either.


"Our sows are fed pretty well, but exercise is fully as essential as good feeding. In the feeding, we give them some corn and some oats when oats compare favorably in price with corn, and a little tankage so they will have a supply for developing the litter. But good feeding falls down, if one does not insist that the sows take exercise. The sow that is fed well and gets but little exercise is in about as much danger as the one that is poorly fed. How to make them take exercise is the question. In the first place, we never feed them close to the shelter. Then in addition to feeding them some distance from the nests, we occasionally haul a load of silage into one of the back fields. They will go back there every day for a week or ten days to gather the few kernels of corn that were in the ensilage. Sometimes it is more convenient to put corn on the manure spreader and when once learned, they will go back to the field just as often as they continue to find a few kernels. One can regulate this by withholding feed one night, if they get lazy. Keeping them a little bit hungry in the morning keeps them rustling for food."—I. M.

It pays to plant trees provided you plant good ones.

NON-HEADACHE **DUPONT** NON-FREEZING

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$\frac{1}{3}$  more



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Dumorite, the new Du Pont Farm Dynamite, has approximately the same strength as regular 40% dynamite and gives you equal work, stick for stick, under ordinary conditions. Thus Du Pont engineers have found a way to give you over 1/3 more dynamite for your dollar. You won't get a "dynamite headache" from using Dumorite and it will not freeze.

Think—this year, with Dumorite, you can clear nearly  $\frac{1}{3}$  more acres of stump land at the same cost you paid last year for dynamite, or you can clear the same amount as in 1921 at a saving of approximately one-fourth. Let Dumorite help you make 1922 the biggest land clearing year of all. See your local hardware or general store merchant.

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Clip with a Stewart No. 1, ball bearing. Does a thorough job. Strongly built. Razor steel plates, with keener cutting edges. **Price reduced to \$12.**

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Handles the sheep about as fast as they are brought up; a boy can turn it all day and enjoy it.

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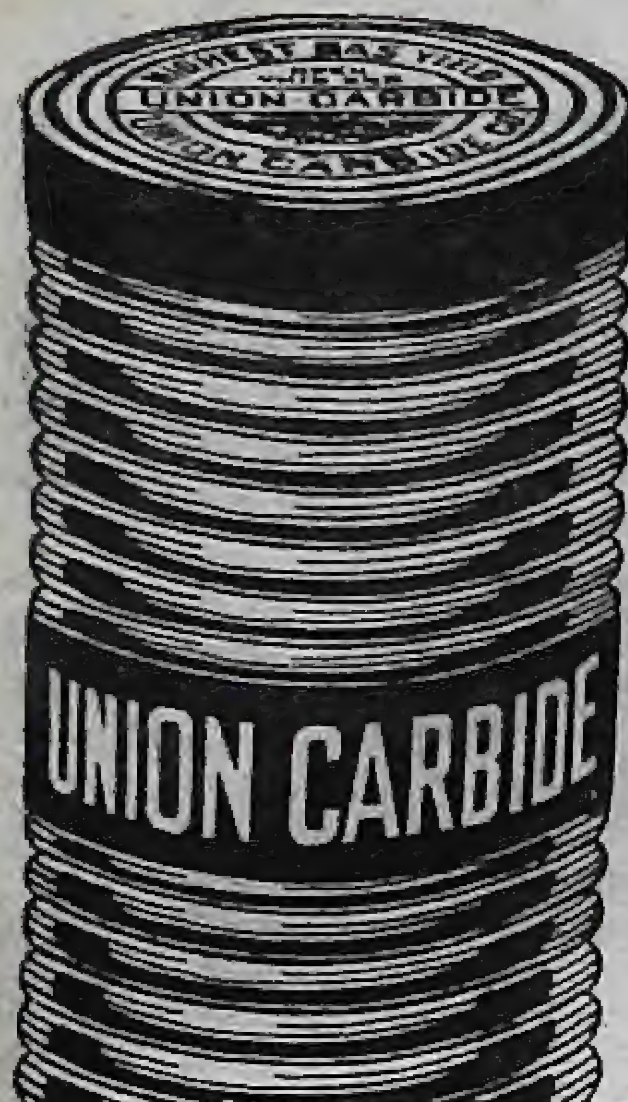
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**BIG TYPE CHESTER WHITES** **DOG OWNERS TEXT BOOK FREE**  
An expert guide for dog owners on proper training, feeding and care.

The prize winner kind from the best prize winner bloodlines. Early developers, ready for market at six months old. Have started many breeders on the road to success that many men lying. I want to place one hog in each community to advertise my herd. Write for agency and my plan. **G.S. Benjamin, R.F.D. 22, Portland, Mich.**





*World's  
Highest  
Gas Yield*

### What it is—how it is made —why it is packed in BLUE and GRAY drums

Here is a story that will interest 341,000 farmers now lighting and cooking with UNION CARBIDE, and the thousands installing it this spring.

Many think UNION CARBIDE just gas-impregnated mineral scooped up, canned and marketed—like so much sand or gravel. Were it so, you could never get that wonderful white light that illuminates home, barn, out-building and driveway PLUS that intense cooking flame.

UNION CARBIDE is made in great electric furnaces. Raw minerals are placed in huge furnaces developing a temperature of more than 7,000 degrees—(three times the heat required to melt steel)—and come forth perfect, gas-producing carbide. Then it is crushed, sized and hermetically sealed in BLUE and GRAY drums to keep it moisture-proof. Only an organization with the resources of this institution could produce UNION CARBIDE quality. And sell it at such reasonable, direct-from-factory prices!

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Please send me without obligation literature on UNION CARBIDE Lighting and Cooking.

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## THE TRUTH ABOUT MILKERS

### Does a Milking Machine Reduce Cost of Milking?

IN the selection of any machine for the farm, the question of prime importance to the purchaser is whether or not it will reduce the cost of production. In past articles we have noted that experienced users testify to the fact that it takes less people to do the milking with a machine, also that the use of a milker reduces to a very considerable extent the actual time required in milking. Granted then that there is a saving in labor, the question now is how much do other expenses of operation amount to aside from labor. Will they eat up the saving made in time so that the final cost of machine milking will be as great or greater than hand?

This question put to the same milking machine users who answered the other questions—410 in number, with herds ranging from two or three cows to one hundred—brought out the following facts:

13 gave less than \$1.50 per month  
22 gave \$1.50 per month  
19 gave \$2 per month  
25 gave \$2.50 per month  
124 gave more than \$2.50 per month  
3 gave cost of engine upkeep  
27 gave gas and oil expense  
46 gave very little  
131 did not answer

It will be noted that answers were given in different ways, some figuring in actual dollars and cents per month. Others did not have the cost figures so accurately and gave it in terms of gas, oil, etc. All cost figures excluded labor, however, including only actual running expenses. One operator wrote as follows:

"I milked twenty-seven before I bought the machine and I am milking thirty with the machine. A milking machine reduces the cost of milking about one-half. My machine is operated by gas engine; it costs me about twenty-five cents to operate my milker a day when I am milking all thirty cows."

There is no one but who will admit that less than a cent per day per cow is not an exorbitant operating cost. Another user explains that this cost does not increase in proportion to the number of cows milked after a certain basic cost is established. He says, "The overhead expenses and work are practically the same if you milk fifteen or thirty cows, as you have to flood your machine before and after milking and wash it once or twice a week, depending on the season of the year."

Another says, "All the repairs on our machine for the first year has been one or two cups."

Of course, the power used and method of operation of the machine will have some effect on the cost, altho this is at most a small item. When asked as to methods of operating their machines these 410 dairymen replied as follows:

Gas engine..... 288  
Home electric plant..... 23  
High tension line..... 57  
Kerosene engine..... 7  
Steam..... 1  
By hand..... 4  
Not answering..... 30

The majority were using gas engines as power. Undoubtedly most of these people had their gas engines already on the farm for other purposes before they got their milkers. No matter what the form of power all the expense or even a major part of it could not be charged to the milker if the same power grinds feed, lights the house, runs the separator and a thousand and one other uses to which it might be put. One user gave his experience on the matter as follows:

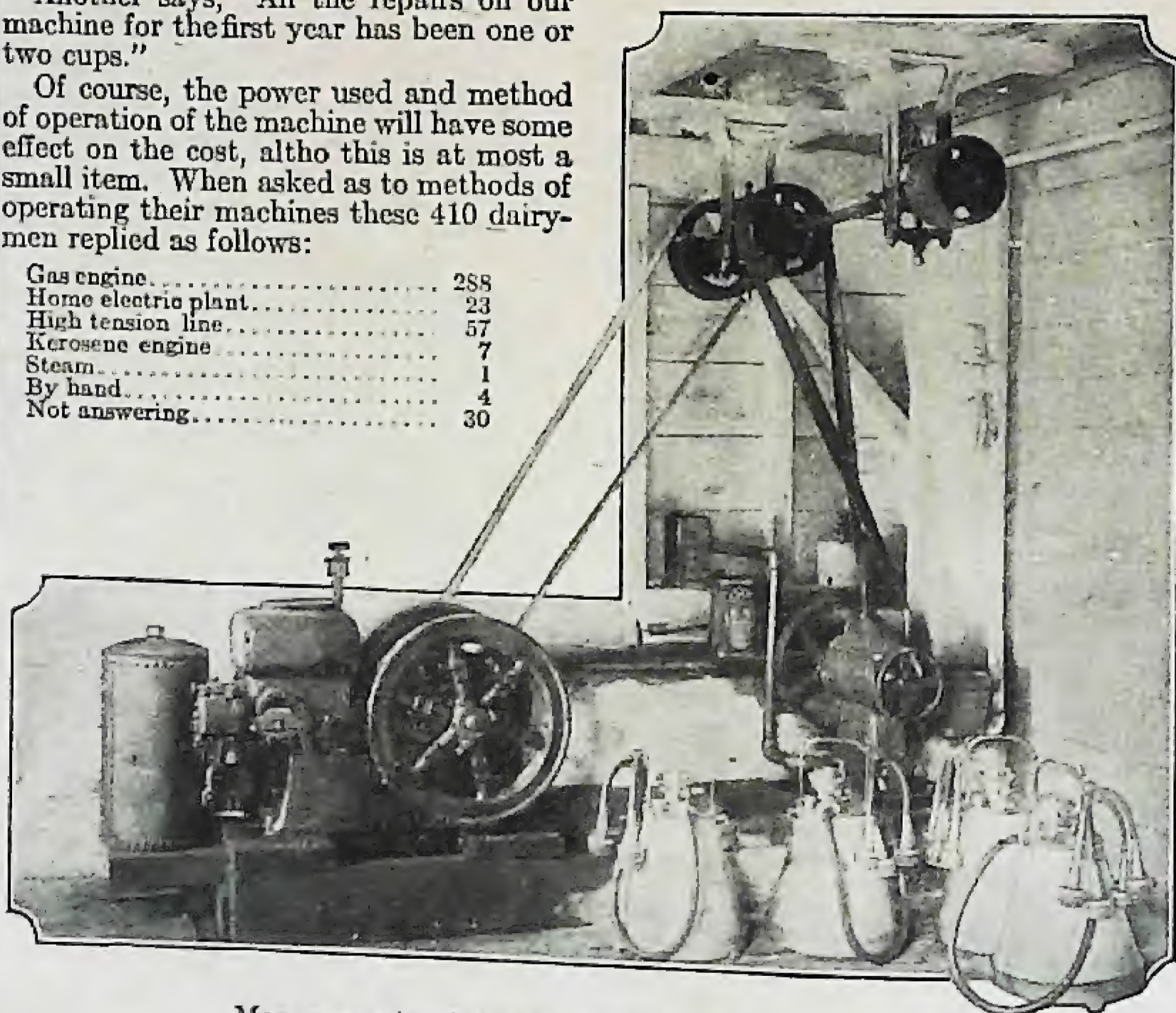
"If you get a two-horsepower engine you will have a lot of power to run separator and milker at the same time from a line shaft. I run mine from a one and three-quarters horsepower engine but it would be better to have a two horsepower."

A Minnesota dairyman milking eighteen cows has this to say about cost of operation: "I operate my machine with a kerosene engine. I think electricity would be a more suitable source of power where it is available."

"The engine cost is the greatest in the operation of a milker. The milker itself costs me about five or six dollars a year to operate aside from labor. This expense is caused in buying rubber teat cup linings, which must be replaced about once each year and also in replacing leaky tubes, etc. By this you may see that when a machine takes the place of three men at a cost of six dollars per year it reduces milking cost a great deal."

"I sell all my milk and cream to an ice cream parlor and candy kitchen where it is necessary to have clean pure products. The proprietor of this business buys our milk because of our machine, as he knows it to be absolutely clean."

The proof of the pudding is in the eating. The proof of a milking machine lies in the answer to the question, "Does it reduce the cost of milking?" Two hundred and eighty-two milking machine users to whom the query was put, answered "yes," thirty-five said "no." When asked how much the cost was reduced, twenty-five indicated no reduction, one gave 5 percent; one gave 15 percent; five 20 percent; three 25 percent; one 28 percent; nine 33½ percent; four 40 percent; forty-eight 50 percent; two 66½ percent; two 75 percent and eighty-one without indicating a



Many were using their power for other uses besides milking.

definite amount of reduction said it reduced time, labor and help.

One user of several years experience writes, "It saves time more than money. I think the large investment in the machine will not lower the costs."

Another adds, "If you have two men for milking your herd, let one go and his salary will pay for the machine. A milker is a paying investment."

An Illinois farmer who milks ten cows with his machine says, "I think my machine will pay for itself in a year and a half."

From these experiences it would seem in the first place that a number of different kinds of power are being used with varying degrees of success, but that none of them make machine milking expensive. In the second place, considering all the factors that have an influence, labor, time required, and power, milking by machine does reduce the cost of milking. The extent to which the cost is reduced depends on the size of herd and ability of the operator, the reduction in cost increasing proportionately with the size of the herd which is milked.

The actual dollars and cents value of a manure spreader on the farm is unquestioned. It has proved itself to be a labor saver, a time saver and in every way a convenience that pays for itself many times. But listen to what this Minnesota dairyman of six years' experience with milking machines says. "I would just as soon think of doing without a manure spreader as to get along without a milker."

#### LOOKING OUT FOR NUMBER ONE

"Number One rates big with every cow I have ever had. Call it selfishness or cow nature—it does not matter so much about that—but it is a fact that the first thing a cow does is to build up out of the food we give her a good, strong, healthy body. All you give her is applied first in that direction."

They were standing in the stable, an old man and a young farmer, looking at the cows. "You have started out right," the old man said approvingly. "Your cows look well. Now keep them that way. Don't let them run down in flesh. Cows are queer creatures. You have to study them a long time before you know them, and when you think you have learned all about them, you find out that there is still much to be learned. Too many of us make the mistake of letting our cows get thin in flesh some time or other in the course of the year."

"It is a good deal like letting a farm on shares. You have got to make an investment before you can get anything back. In the case of the dairy cow, you invest the feed and the care. She invests the milk-making machinery. If you are economical with your care and feed, she will be close in her returns. You can't dodge that. It is a law of nature. And you keep a cow up in good trim the year round and she will do her level best for you twelve months in a year. You're on the right track. Stay there."—E. L. V.

#### MISREPRESENTATION OF COW

I bought a cow in September, owner or seller stating the cow would freshen in about three weeks. I find now the cow is not with calf. What course can be taken against the seller?—T. C. G., Minn.

If the cow is not as she was represented to be by the seller, you can do one of two things: (1) offer to return her and recover the amount paid, or (2) keep her and hold the seller for damages measured by the difference in value of the animal as represented and as she actually was. However, if you have permitted more than a reasonable time to pass after discovering that the cow was not with calf, without demanding return of your money, your only remedy now is a claim for damages, measured as above stated.—A. L. H. S.

## WOLVERINE The 1000 Mile Shoe



Horsehide  
through  
and through

"I purchased Wolverine shoes for myself and son. They have given perfect satisfaction. My son usually wears out at least four pairs of work shoes per year. He has worn these seven months. I have worn mine seven months and they are still good. I have plowed in them and have worn them while doing the roughest kind of farm work. Any man who has rough work to do would certainly find it profitable to try these shoes, as the cost is low, they wear longer and are easy to work in."

Charles E. Baumgartner,  
Milford, Ind.

### Real comfort and long wear in these plowing shoes

We make workshoes *only*, shoes for outdoor men or for factory workers who require a comfortable, hard-wearing shoe. It is our specialty. All are made of horsehide, through and through, the only shoes made, we believe, that are built entirely of this toughest fibred leather. We tan this leather, by our own process, so that it is soft as calfskin. It wears and wears and wears. You can get it soaking wet and it will dry out soft. The shoe shown above is for plowing. It is made specially for spring work. High enough to keep out gravel, dust and dirt, yet not so high as to overheat the leg. It is a shoe you can walk in all day without tiring. WOLVERINE Shoes are designed scientifically to keep the feet comfortable. The thick, protective leather is soft as velvet, and it stays soft.

### A work shoe for every purpose

We make a WOLVERINE Shoe for every purpose, from soft, flexible shoes for summer field work and shop work, to the hi-cut, heavy, leg-protecting shoe for hunters, lumbermen, oil men. All are made of horsehide, through and through. All wear and wear and wear.

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If you don't know of a WOLVERINE dealer in your neighborhood write to us. Use the coupon attached. We will send you the name of our nearest dealer and a catalog of styles and models we make.

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MICHIGAN SHOEMAKERS,  
Dept. 146, Rockford, Mich.  
Please send me name of nearest WOLVERINE dealer and catalog.

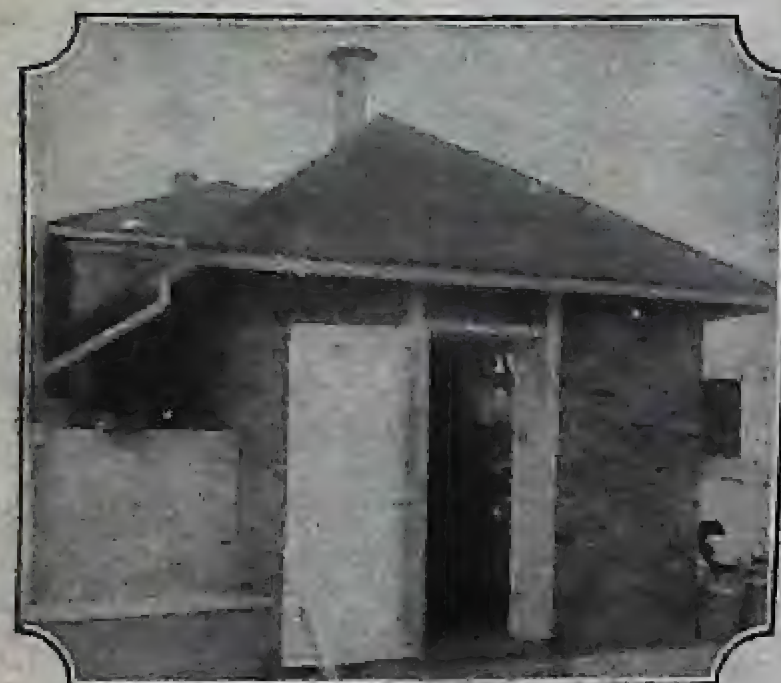
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### WHITE TILE FOR MILKHOUSE

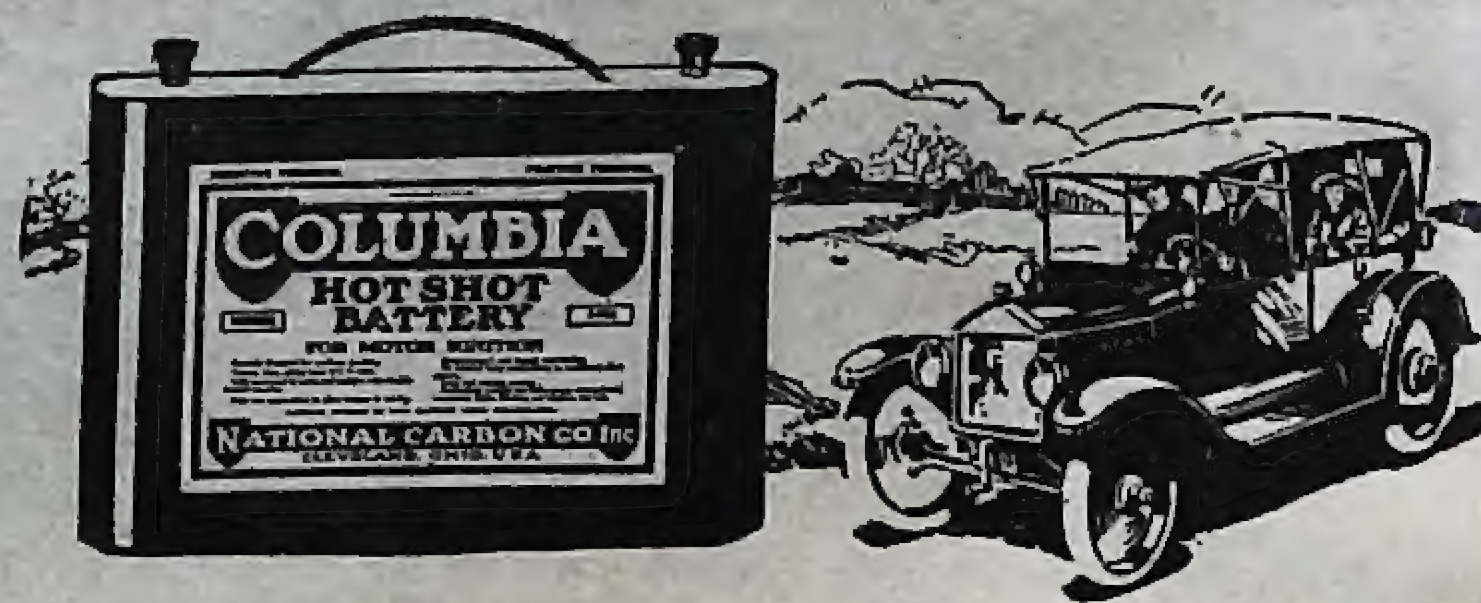
An Illinois dairyman has built a milkhouse which he has finished on the interior by surfacing its walls with pure white enameled tile. The use of tile in this way lends an appearance of extreme cleanliness and is most attractive. The owner, however, is a practical man and has taken this step with practical ends in view. He believes the spotless appearance of the milkhouse will serve to make for greater cleanliness on the part of his men in every detail of dairy work.—O. C.

### HE DEVELOPED A HOME MARKET

"Far away pastures are always verdant," said an ancient philosopher and since that time folks have always been looking for the far away pasture, frequently overlooking the fact that the pasture under foot may be even more verdant than that sighted on the distant slope. So with the dairyman. He frequently complains that there is no market for his milk. But "this is the golden age for opening up new outlets for milk and milk products," says A. J. Hesler, a dairyman of Fountain county, Indiana. "There never has been a time when there were more real facts to put before people to convince them that it pays to drink milk and drink it in large quantities." And Hesler's experience in developing a milk market is worth repeating because there are thousands of towns in just the same position Veedersburg was, there are thousands—yes, millions of children that need milk just as Veedersburg children did and there are millions of folks who appreciate a good milk supply when one is made available to them.

Last fall, Hesler made an investigation of the market for milk in his home community of Veedersburg, a town of 1,580 population. He found that its milk supply was guaranteed by various and sundry family cows kept on the outskirts of the town; this constitutes an unsatisfactory source, being irregular, produced under any and all conditions, and from untested cattle. Hesler interviewed the mayor who also seemed solicitous concerning a reliable milk supply for the town, one that would be regular and giving a quality product. On November 18, 1921, the first milk was delivered in the town. The delivery consisted of twelve bottles. Now (February 1) the daily consumption has grown to from seventy to eighty quarts per day.

Hesler wanted to devote his attention to his farming and his Guernsey cattle, so he cast about for a way to deliver quality milk without peddling and at a reasonable price to the consumer. There are two meat markets in the town and since such markets are always supplied with ice, he conceived the idea of using these as depots for the milk. He bought the bottles and in order to have the bottles brought back, the butcher would charge the customer five cents for the bottle in addition to the eleven cents for the milk. That is, for the first bottle of milk the customer paid sixteen cents and when he got another quart of milk, it cost him only eleven cents provided he brought a bottle back. The bottles cost between eight and nine cents in gross lots and as they were not brought

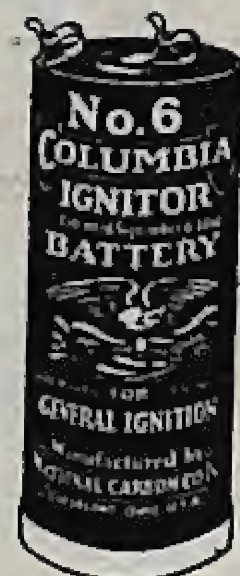


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A few entries weekly in this 50-page Book will show you at any time where you stand with your farming business. Write us the size of your silo, or the size you intend to buy, and the name and address of your dealer. We'll mail the Book promptly. Worth a dollar to any farmer. Ask also for free Catalog.

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back very regularly, Hesler was losing more money on his bottles than he made on the milk. Accordingly the bottles were sold to the customer for ten cents instead of five with the result that they are brought back and if not, there is still some profit in selling bottles. This milk is turned over to the butcher at nine cents a quart and he retails it for eleven, getting two cents a quart for his bother. "Double strength," or forty percent cream is sold the butcher at twenty-five cents a pint and he charges the consumer thirty cents a pint. The folks make adjustable bails with which to carry the bottles back and forth. In a town of this size, this seems to be a very good way to avoid the expense of delivering. In this time when the word "economy" carries no odium with it, most people like the cash and carry principle.

Lately the local Red Cross has been financing the use of milk in the Veedersburg schools. They take eleven gallons a day and this is put up in half-pint bottles. The Red Cross bought two sets of carriers, three gross bottles, 25,000 caps and 25,000 straws. Hesler takes the bottles and delivers 180 half-pint bottles per day. These are put in the halls or where they can be kept cool and just before recess, one bottle is passed to each pupil, who also gets one milk wafer. The janitor has made two sharp sticks with which a hole is jabbed thru the cap and thru this hole the pupil sticks the straw thus getting the milk without danger of contamination. After all have drunk, a container is passed and the caps are thrown in. Then the pupils in the room march past a sink and as they pass each child gives his bottle a double rinsing. This makes the bottles clean or nearly so, and gives the youngsters the right idea of cleaning the milk bottles before the milk dries in them.

This plan can be applied in many small towns as few of them have a satisfactory milk supply. This enterprising young dairyman uses the local paper to tell folks the quality stuff he is delivering to them and to keep them informed on how milk compares with other products as a food. The plan can be applied in many small towns and will not only open up a market for the local dairyman but it will be a real service to the town folks in giving them a supply of good wholesome milk from cows known to be free from disease, as such herds are usually "TB" tested.—I. M.

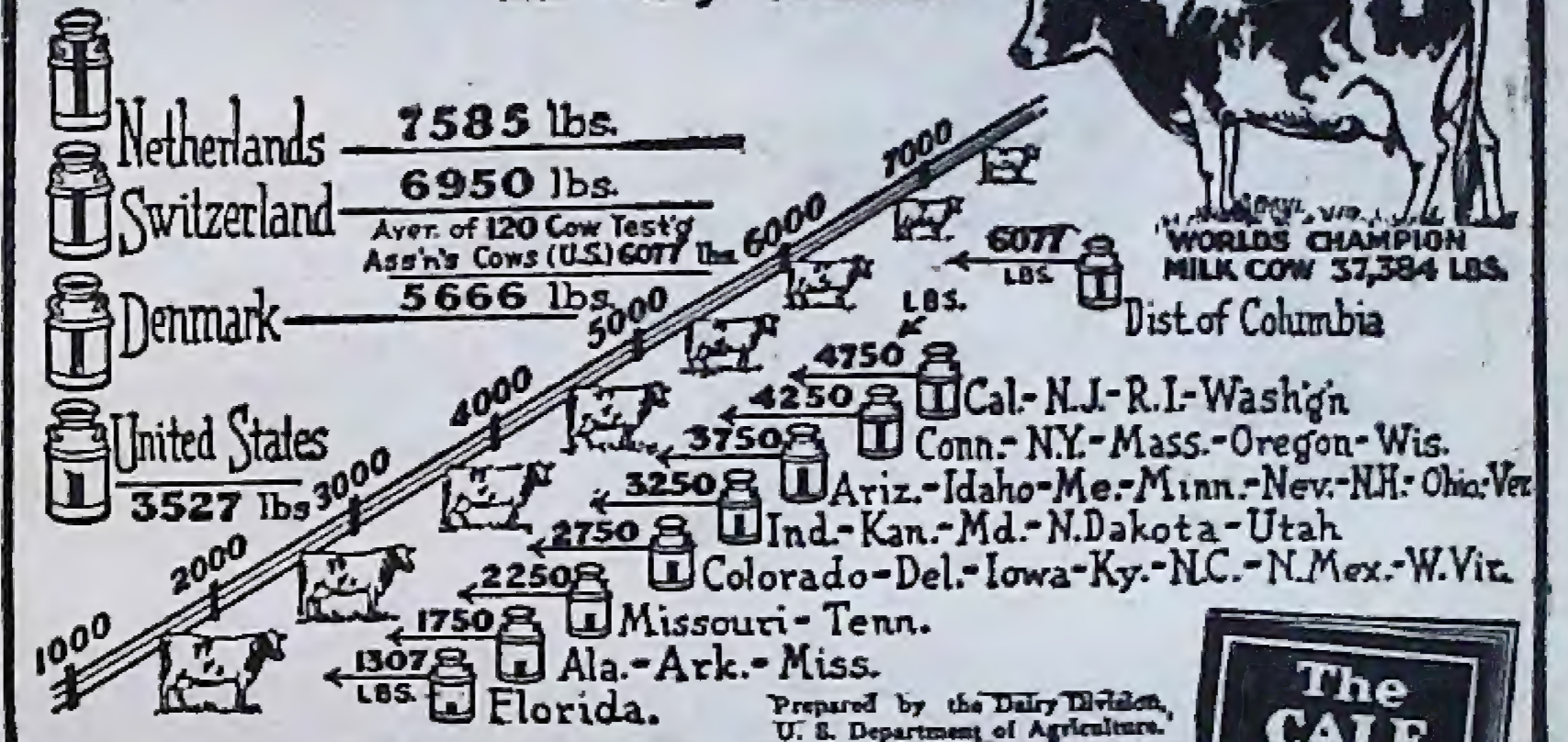
### WHEN SOWS LOSE PIGS

Can you tell me what was the matter with my hogs and what I could have done? I had six nice young gilts; they were not fat. Just nice thrifty hogs and I fed them on oats and plenty of water. They also were on free range, but they cannot farrow. I took part of the pigs but most of them never got where I could get them. Was there anything I could have done or have given them? I lost five of the sows and all of the pigs but four. Have one more to farrow soon and would be thankful for any advice. Some tell me I fed too much oats. Would that be the cause of the trouble?—C. M., Ia.

The ration of oats was unsuitable and injurious. Ground oats serves as a part ration if screened to remove hulls, otherwise it irritates the bowels. To prevent trouble at farrowing time, sows should be kept muscular by daily exercise and should be so fed that their bowels are active. There is no trouble as a rule, when they are allowed to pasture green clover, alfalfa or other grazing crops in summer and are fed clover or alfalfa hay and roots when green crop is not available. In addition allow milk as a drink and provide middlings, bran, ground barley and ten percent of digester tankage from a self-feeder. Allow free access to salt, slaked lime, wood or corncob charcoal and wood charcoal. Apply to the state agricultural experiment station for bulletins on the care and feeding of swine.

## PRODUCTION OF MILK

Of the Average Cow in the United States and Dairy Countries



## Not More Cows—But Better Cows

Compare the average yearly milk production in the United States, of 3,527 lbs. per cow, with that of other countries shown above. You will see at a glance that one of the greatest means of increasing dairy profits is in obtaining better cows.

The cheapest and best way of getting better cows is to raise them. Use a good bull, keep the best calves from your best cows and raise them on De Laval skim-milk, which is a splendid feed when properly fed. In this way you can improve your herd at very little cost.

A De Laval Separator is valued chiefly because it separates cream—a cash crop—better, quicker, cheaper and without waste. But of almost equal importance is the skim-milk it gives, which will replace your present cows with better cows; or as Pren Moore of the University of Idaho says, "where fed to laying hens will bring you as much money as the original butter-fat," while it is without equal for growing pigs.

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The original cream separator. Over 2,500,000 in daily use; about as many as all the rest combined. Has won 1,091 grand and first prizes at every important exposition. Skims cleaner, turns easier and lasts longer than any other. The world's standard. Pays for itself. Sold on easy terms. See your De Laval Agent or write for information.





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 Cheese is one of the cheapest, most wholesome and nutritious foods that can be produced on the farm without involving a great deal of labor and equipment. There should be more cheese made and used. It may be used in a variety of dishes, taking the place of high-priced meats and eggs, and is much more economical when made at home than when purchased.

The equipment, with the exception of a dairy thermometer, usually is to be found on every farm. A gallon syrup bucket may be used for the press by removing the bail, melting out the bottom and making perforations in the lid. The bucket is used inverted. Make a cheesecloth lining to fit the press, using a circular piece for the bottom, and sewing to it a piece an inch wider than the height of the press and as long as the circumference, allowing for seams. Saw from a one-inch board a disc just large enough to fit into the bucket. The curd knife may be a kitchen spatula or butcher knife. The vessel in which the milk is heated may be a clean wash boiler, a bucket or dishpan. The dishpan or bucket should be covered with several layers of heavy cloth if used. A separator bowl is the best utensil I have found in which to drain the whey from the curd. A good dairy thermometer may be purchased for from fifty cents to a dollar; rennet tablets are about sixty-five cents a dozen and cheese coloring tablets thirty-five cents a dozen. It can be made without the coloring, but the cheese looks more attractive if it is used.

The milk must be perfectly sweet to make good cheese. When the weather is cool, or when the milk can be kept cool, three milkings may be used, keeping each separate until ready to use. If the cheese is made in the morning the last milking need not be cooled. Measure the milk and put into vessel to warm. Then dissolve the rennet and coloring in cold water in two separate cups. Do not dissolve the tablets until a few minutes before using. Use one number two tablet of rennet to fifty quarts of milk or 100 pounds, and from one to three cheese coloring tablets to one thousand pounds of milk or one-eighth tablet to fifty quarts. Stir the milk occasionally and heat to 86 degrees (it takes only a few minutes), then remove to the back of the stove where the same temperature may be maintained. Add the cheese coloring which should be thoroughly dissolved, and stir well for a few minutes. Then add the dissolved rennet and again stir thoroughly. Cover closely until the curd is set which will take from thirty to fifty minutes. To test, lift up a portion of curd with the finger. If it breaks off clean and smooth it is ready to cut. Cut across with the spatula, then at right angles about one-eighth inch apart. Cover closely and let stand ten minutes. Then replace on the stove and during the next ten to fifteen minutes increase the temperature to 100 degrees stirring constantly as the curd has a tendency to settle. The curd will ball up when done. Now place an open sugar can over the separator bowl and pour in the curd and whey. After all the whey is drained off break the curd into fine pieces and add one tablespoonful salt to every six quarts of milk used and mix well. Have the lining ready in the press, put in the curd, press down firmly, fold the lining smoothly, put the wooden disc in, then add weights. If the whey looks white, put on a light weight at first, then increase weights gradually. A little experience will teach one as to about the amount of weight to be applied to produce a good cheese. A hard press may be used instead of a bucket with good success. Press from eight to twelve hours, then remove and trim to make it as smooth as possible. Cure in a cool, dry room for about three

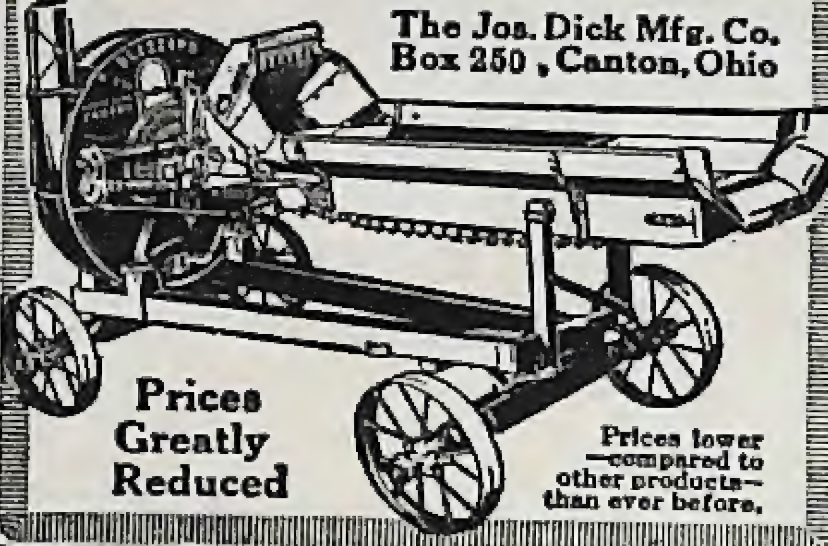
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weeks. Grease with butter, rub well and turn every day. When cured, dip in melted paraffine. If the cheese is thicker than five inches it is well to bandage it as it will spread. Make the bandage of cheese cloth long enough to reach around the cheese and sew firmly. Cheese cures best in the spring and fall as it gets rather soft and puffy in the summer.

There is nothing complicated about the process at all. After making it a few times, one may go about their usual kitchen duties and as it does not require constant attention other things can be accomplished while it is in the process of making. We often use them before they have been cured three weeks; then the cheese is apt to become stringy when used in cooked foods, but it is all right for plain table use.

Fifty quarts is a good amount to experiment with, using one rennet tablet and one-eighth coloring tablet, which will make about three pounds of cheese.—J. C. K., Nebr.

## THE BULL AND ABORTION

The bull has always been considered one of the chief sources of infection with the contagious abortion disease, but this idea has now been pronounced erroneous. Dr. E. C. Schroeder, superintendent of the experiment station of the Bureau of Animal Industry, in a paper recently read by him at the annual meeting of the United States Livestock Sanitary Association made the astonishing but welcome statement that the herd bull does not communicate the infection directly by service. Feed contaminated with the germs of the disease is the chief source of infection. Grass or other feed is infected with the germs by the vaginal discharges of an affected cow, or by milk from her infected udder. The udders of 60 percent of affected cows have been found to harbor the germs of the disease so that the milk is an infective agent and it is also possible for the cow's womb to become infected with germs from the udder before or just after conception.

Calves nursing affected dams become infected with the germs of the disease but, happily, the infection is thrown off at weaning time so that the heifer will not be likely to abort when she becomes pregnant for the first time, provided she is not reinfected by eating contaminated feed or drinking infected milk. It is therefore absolutely necessary to keep the heifer calves away from cows that have aborted or that have been proven infected by application of agglutination or complement fixation tests to samples of their blood. The stable has also to be cleansed, disinfected and whitewashed and it may be necessary to have the wombs and ovaries of affected cows treated by the veterinarian.

Isolation of the bull is also advised, for he may become infected so that his sexual fluid may contain germs of the disease and falling upon feed may infect it so that it in turn, may infect the cattle that eat it. Cows have also to be bred and then kept separate, on ground not used by other cattle, for some time after service, lest fluid from their vaginas may infect feed.

Dr. Schroeder says that if precautions are taken to isolate the bull, bring cows to him for service and quarantine new bred cows for a short time, the bull is not a menace as regards spread of the contagious abortion disease. His own words are as follows: "The community or association bull is harmless so far as infectious abortion is concerned, and he is so without elaborate and troublesome disinfection of his genital organs, provided the precautions already suggested, a bull pen, service on neutral ground, etc., are observed."—A. S. A.

When you get out the iron horse for spring work, be sure his joints are lubricated.

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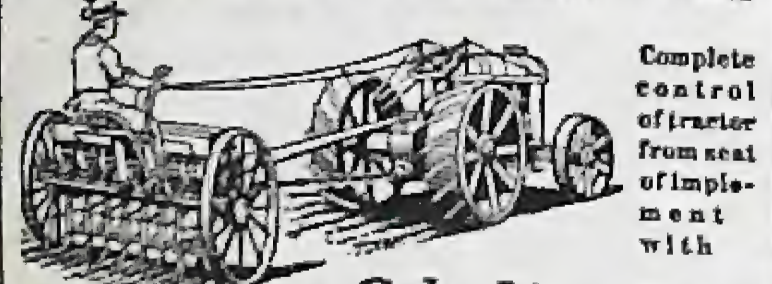
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## A WORD ABOUT GREEN FEEDS

When turning dairy cows to pasture in the spring it is worth the extra time required to proceed cautiously, putting the animals onto the green feed gradually. The physical welfare of the cow dictates this procedure, tho there is not equal danger connected with the first pasturing of all green feeds. It is not always possible, however, for a heavy-milking cow to consume enough of the lush, watery grass of the forepart of the season to maintain her normal production. Hence, to avoid a slump, even tho the cow is on abundant pasture, it is highly advisable to change the good milker from dry feed to grass slowly. Another reason for doing this is to reduce to the minimum the taste in the milk which accompanies the annual turning of the herd to grass.

Rye is the first pasture feed available to the dairyman. The cows may be turned onto it as soon as growth has started, and it may be pastured closely. Over much of the Middle West it will provide grazing for from four to six weeks before cattle should have access to the bluegrass. Under good conditions it will often produce a moderate or good crop of grain, even after being pastured that long. Many dairymen obtain pasturage from the same planting of rye in both fall and spring. Disadvantages of this feed are that when used extensively it imparts a disagreeable taste to the milk and, like the young bluegrass, is not nutritious enough to support large milk production. For the man short of feed in the spring, however, and for limited early pasturage, a few acres of rye may well have a place on the dairy farm.

The available somewhat later than rye, red clover is another early pasture well worth the attention of dairymen. Being a legume, its feeding value is higher than that of rye. Moreover, it is a crop that should be found on every dairy farm, unless plenty of alfalfa is being grown, anyway. In pasturing clover, especially at first, bloating should be carefully guarded against. To lessen the danger from this source, have the animals well filled with dry hay before turning them into the clover the first few days, then turn them in for only one or two hours after the dew or other excess moisture has dried away. It is also a good plan to keep dry hay or straw accessible to stock on clover pasture, so that they may eat of it at will between their feedings on the green forage.

The widespread attention which sweet clover has received in recent years has increased the interest in this plant as a dairy feed. This crop has a feeding value nearly equal to that of red clover, is less likely to cause bloating but, owing to its hardness, may be pastured earlier in the season. Its main disadvantage is that cattle are reluctant to eat it at first. This difficulty may be overcome, however, by turning the cows onto it before the bluegrass has started, whereupon they will develop an appetite for it. Sweet clover is best when pastured quite heavily, as this causes the growth of an abundance of the luscious fresh shoots.—F. M. C.

## FEEDING THE ORPHAN CALF

Please tell me how to save a calf whose mother died when it was born. What would be good to feed it? It did not get any of its mother's milk.—J. L. S. Dak.  
If the calf has lost its mother, for the first few days after birth it should receive whole milk reinforced by a little flaxseed meal, about two ounces being about right, boiled into a jelly with water, one part meal to six of water, and added to the milk. In ten or twelve days the calf may gradually be changed to skimmed milk,



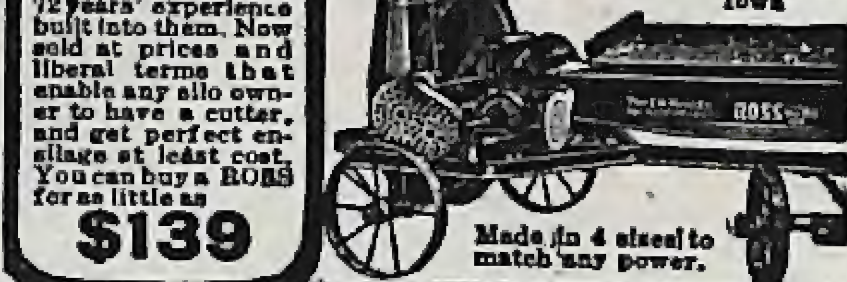
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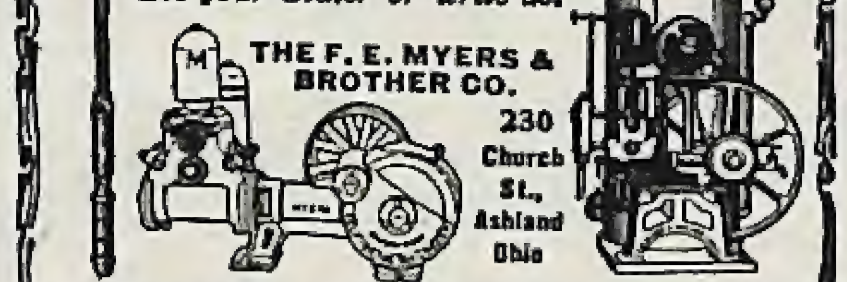
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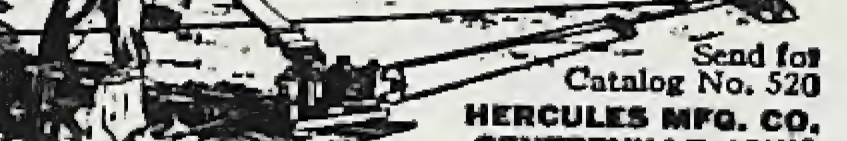
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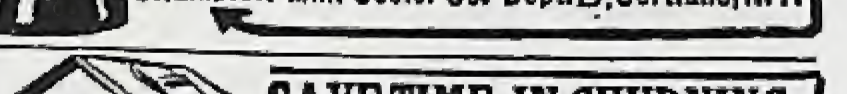
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keeping up the feeding of flaxseed meal. At three or four weeks of age other feeds may be given, preferably oats, wheat middlings or a mixture of both. The calf will gradually learn to eat hay if it be placed before it. A fine quality of clover or alfalfa hay or any good early cut mixed hay is generally reserved for this purpose. If corn silage is available, good quality silage free from mold may be fed to advantage in small quantities say about two pounds a day to calves that are old enough to eat it. Older calves may be fed five to ten pounds with dry feed. The whole oats and bran feed may be continued after six weeks of age or it may be supplemented with a little ground barley. Whole oats and corn chops make a fairly good feed. A very good success has been had with the following rations: Twenty pounds cornmeal, twenty pounds oatmeal, twenty pounds linseed meal, ten pounds blood-meal, and five pounds bonemeal, changed to corn, oats and bran when the calves are three months old.

## COW GIVES STRONG MILK

I have a cow that is going to have her third calf. Before she gets dry, the milk commences to get strong, after it has stood awhile, so we cannot use it. We would like to know if the milk would be good for the calf. She is dry now. What is the best thing I can do for her?—R. T. F.

It is quite usual for a cow to give strong tasting milk when nearing calving, or when she has been yielding milk for a long time. This is most likely to occur when a cow has not been fed silage or other succulent or laxative feed. If not near enough to the calving time to warrant drying off milk secretion, the affected cow should be given a pound of Epsom salts in warm water and this should be repeated at intervals of three or four days until the milk becomes normal. The doses of Epsom salts should, however, not be repeated when the bowels continue loose from the previous dose. No special treatment is necessary at present in the case in question but it would be well to give the cow a dose of Epsom salts at calving time.

## THE MUSCLE SHOALS PROJECT

Continued from page 10

operation, an enormous amount of hydro-electric power would be produced which could be used for manufacturing enterprises of various kinds, for the operation of electric railways and power plants, for the furnishing of lights to cities within a radius of many miles, and for any purpose for which electric power at low cost is desirable. Raw materials for many lines of manufacture are located conveniently near. Forests of hardwood, deposits of iron ore, zinc, phosphate rock, coal, slate, and marble are some of the products which are available. With hydro-electric power at low cost and cheap water transportation, it would be an almost ideal location for manufacturing industries and would afford conditions under which the cost of production and transportation should be kept at a low figure.

The Muscle Shoals project is one of the biggest propositions in the way of industrial development that has ever been before the country. It is a question into which no politics should be allowed to enter and it should be decided entirely from the standpoint of the best interest of the country as a whole. It is so big that it requires careful and thoro study by the best experts in various lines. A great deal of study has been made of the project already and the time for action is at hand. Naturally there is opposition, for it is not possible to put into operation a big, new enterprise without disturbing existing conditions and institutions to some extent. Even tho it is necessary to make some readjustments in order to fit the new project into existing conditions, that should not prevent its development when it is to the interest of the people of the country to make the change.



## IF MARSHALL COUNTY FARMERS PRACTICED WOOD PRESERVATION

MARSHALL County, Iowa, is hardly more than a dot on the map. Yet if its twenty-four hundred farmers practiced wood preservation—employed simple, money saving Carbosota treatments to check decay in the wood used for buildings, fences and farm equipment—they would save enough money every year to pay the interest on a bond issue of \$2,500,000.

Think of the many miles of good roads this two and a half million dollars would build—the new schools and other public improvements it would pay for!

Marshall County is a typical farming county. Any other agricultural county in the United States would be equally benefitted by the general use of Carbosota.

This example graphically presents the far-reaching economic advantage—the huge saving that would result to

the nation from the practice of wood preservation by each of the six and a half million farmers in the country.

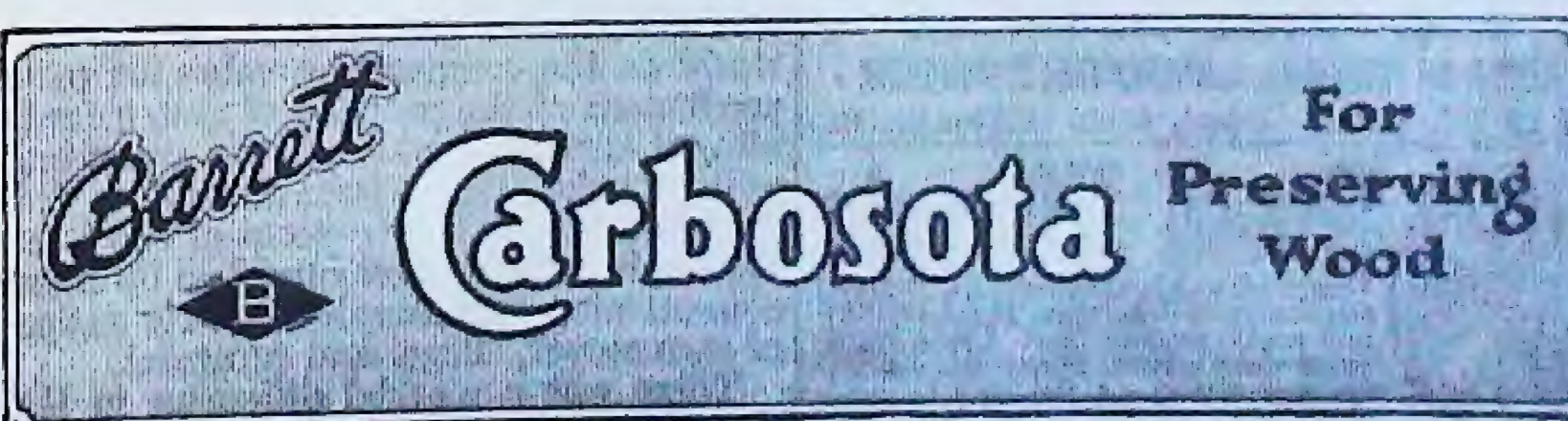
To the individual farmer, practical preservative treatment with Carbosota means a substantial saving in the cost of building and fence repairs.

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We want to prove to you our claim that Triple Strength Rat Virus is a powerful—yet non-poisonous and absolutely safe—rat virus. It is a TRIPLE STRENGTH Virus. To introduce this powerful Triple Strength Rat Virus, we will make every reader of this paper—for short time only—a special offer of a regular \$2.50 bottle for only \$1.00 postpaid. This \$2.50 bottle Triple Strength Rat Virus is enough to clear a big poultry house, barn or yard of rats and mice.

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## SPRING FEEDING HINTS

Due partly to the long winter period on dry feed and partly to her desire for grass, the dairy cow's appetite is likely to lag in the spring. The same ration that satisfied her completely in January may not be eaten with the same relish in March and April. As a good appetite is necessary for the proper functioning of the cow, it is worth the dairyman's time to carefully scrutinize the ration, with a special view to increasing its palatability.

Possibly it lacks variety. If so, a combination of more feeds, or even of different feeds, may be the improvement needed. A slight change in the composition of the grain mixture can often be made without affecting its nutritive qualities, the new feeds helping materially to put a new edge on the appetites of the herd. Occasionally a skilled feeder, knowing his animals and his business thoroughly, will make a quite abrupt and even radical change in their ration, purely for the stimulative effect on their appetites. This practice, however, is not to be recommended generally. Where silage is fed, it is unlikely that the cow's desire for pasture contributes as much to her spring uneasiness as where no feed of a succulent nature is fed during the winter. Thus silage, the standby of the progressive dairyman the year 'round, has a special value in spring.

Tho not particularly a seasonal requirement, an item in the spring feeding of dairy cows worth considering is the extra demand for protein and minerals by at least a part of the herd. The reference is to the pregnant cows which, in the development of the fetus, have large use for these substances in addition to their maintenance requirements. Milk production and the growth of young animals also make considerable extra demand for protein; so that for the growing heifer that is in milk, and carrying a calf as well, the need for it is heavy indeed. In arranging the rations the thoughtful herdsman will make due allowance for these special needs of his charges.

In order to obtain good results from feeding, it is necessary to look out for the cow's body comfort. She is working just as hard in the spring as at any other season but, on the whole, under probably less favorable conditions. Remember that the weather of the spring months can be extremely variable. Consequently it pays to be on guard against sudden periods of cold and stormy weather, seeing to it that the winter vigilance against drafts is not relaxed too much, and that the cows are not turned out some frosty morning to a fill of ice-water because the tank heater has been started on its summer vacation too soon.—F. C.

### FEEDS FOR MILK PRODUCTION

Continued from page 12

gluten feed was substituted for an equal amount of cornmeal and wheat in a ration for dairy cows with the result that there was an increase of over fifteen percent in milk and sixteen percent in fat production. Corn gluten feed was compared with oilmeal and cottonseed meal as sources of protein in a feeding trial at the Purdue station. They conclude that little if any, variation in the amount of milk production can be attributed to the kind of protein concentrate used. In a metabolism study on the comparative value for milk production of the proteins of gluten feed, oilmeal, distillers' grains, casein and skim-milk powder, the Wisconsin station fed rations of which fifty percent of the total digestible proteins were furnished by these concentrates and supplemented a ration of corn stover, silage, and cornmeal.

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utilization of the concentrates; gluten feed showed a percentage efficiency of 45; oilmeal 61; distillers' grains 60; casein 59; and skim-milk powder 60. It should be noted that these figures are only applicable when corn stover is fed as the roughage.

In further studies where clover hay and alfalfa hay formed the roughage, gluten feed was found practically equal to the other grains. The following table shows clearly the influence of the roughage on the supplementing value of the various proteins:

Protein	Corn Stover Percent	Clover Hay Percent	Alfalfa Hay Percent
Gluten feed.....	45	61	42
Linseed meal.....	61	63	42
Distillers' Grains.....	60	66	51
Cottonseed meal.....	—	60	35

This is an excellent illustration of the differences in protein efficiency of various combinations of feeds.

As distillers' grains are now off the market, it is suggested that a protein concentrate of very high efficiency so far as its protein is concerned and where alfalfa or clover is the main roughage used, could be formed by combining gluten feed and corn germ meal. Since the germ constitutes about ten percent of the weight of the corn kernel, a mixture with that proportion or possibly fifteen percent as germ oilmeal, should be effective.

When corn bran is not added to the gluten after separation from the starch, it is called gluten meal. It is pressed, dried, and ground into meal. Gluten meal is one of the highest protein and fat carrying concentrates containing almost thirty percent of digestible protein.

Hill at the Vermont station, in a feeding trial, found that one hundred pounds of dry matter in the form of gluten meal in the place of an equal amount of dry matter in the form of equal parts of cornmeal and bran, increased the yield of milk and total solids, 12.5 percent and that of the fat almost 17 percent.

Gluten meal was compared with cottonseed meal by Soule and Pain of the Virginia station, in a feeding trial with two lots of six cows each. Corn and cob meal, silage, and hay was fed in addition. The results show a slight difference both in milk and fat production in favor of cottonseed meal.

The germ from the corn grain separated in the manufacture of starch are dried and the oil largely extracted with pressure, leaving what is known as corn oil cake. This is then ground and sold as germ oilmeal. The better grades of this meal are relatively high in protein, although lower than gluten feed. It is, however, high in oil which escapes extraction.

In a feeding trial with four cows, Hill of the Vermont station, compared germ oilmeal with a grain mixture composed of equal parts of cottonseed and linseed meal. In a second trial germ oilmeal was compared with ground oats. Wheat bran, corn silage, and hay were fed in addition in each ration. The germ oilmeal ration made three percent more milk and two percent more butter than did the cottonseed-linseed mixture, and seven percent more milk and six percent more butter than did the ground oats.

In the manufacture of hominy grits, there remains a by-product composed of a mixture of corn bran, the germ, and some of the more starchy parts of the corn kernel, called hominy feed or chop. It is quite similar to corn in composition with the exception that it is richer in fat. As it is bulky in nature it is preferred to cornmeal by many dairymen. As with corn, hominy must be supplemented by protein rich feeds.

This is but one of several articles outlining the value of different feeds in milk production. If you find them worthwhile and want more, let us know.

If a cow's milk flow is allowed to go down through neglect, poor feed, or any other cause, it is almost impossible to get the flow back up to the first market.

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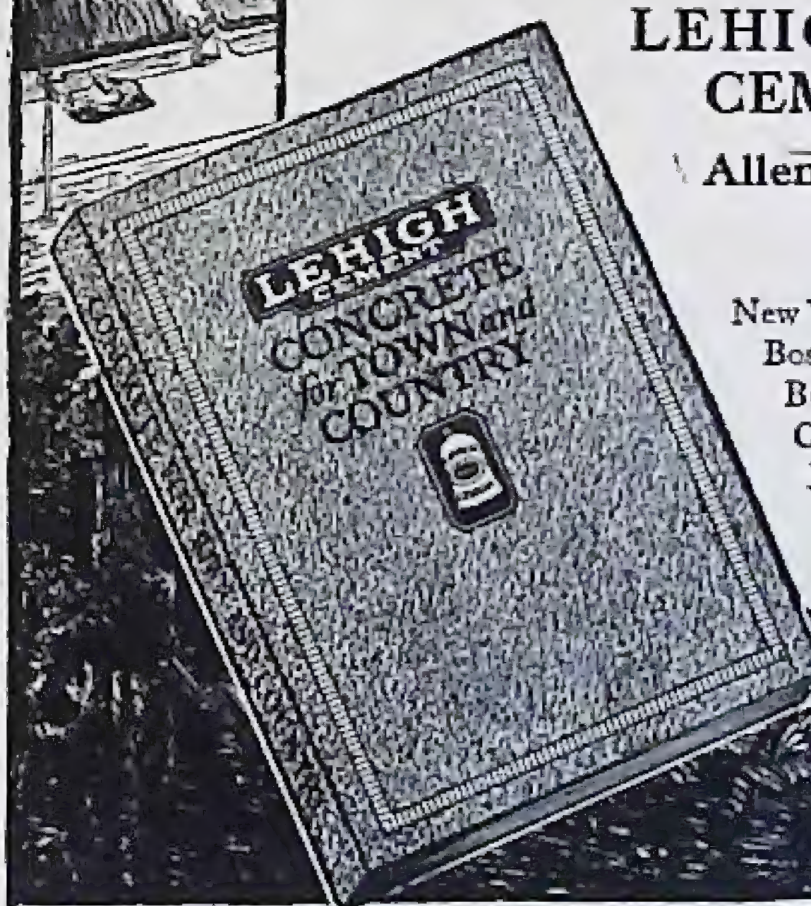
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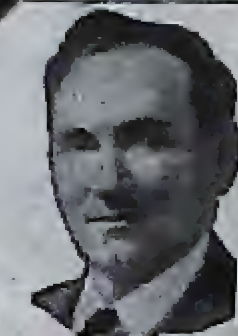
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## How To RAISE BABY CHICKS

Put Avicol In the drinking water

Most people lose half of every hatch, and seem to expect it. Chick cholera, or white diarrhoea, is the cause.

An Avicol tablet in the drinking water will save your chicks from all such diseases. Within 48 hours the sick ones will be lively as crickets.

Mrs. Wm. May, Rego, Ind., writes "I was losing 10 or 15 chicks a day Avicol. I haven't lost one since."

It costs nothing to try Avicol. Use it either for preventing or treating white diarrhoea and all bowel diseases of poultry. If not satisfied, your money will be promptly refunded. Sold by most druggists and poultry remedy dealers, or mailed postpaid for 25c. Burrell-Dugger Co., 405 Columbia Bldg., Indianapolis, Ind.

### Free-Conkey's Poultry Book

80 pages check full of information about the feeding and raising of chicks, calling of hens, etc. Tells how to keep chickens healthy and how to make them pay. Whether a beginner or a professional, Conkey's Book is worth dollars to you. Sent for 6 cents in stamps to pay postage. THE G. E. CONKEY CO., 624 Broadway, Cleveland, Ohio



### CARE OF GOSLINGS

Goslings should not be removed from the nest until the third day after hatching, as it is important to see that they are quite dry, and should be kept warm and dry until they are feathered out.

They should not be fed until thirty-six to forty-eight hours old, at the same time be offered a lukewarm drink. Their first few days' feed consists of oatmeal, hard-boiled egg and shorts or bran, thoroly mixed to a crumbly mass. Lettuce or red clover chopped fine and mixed with the food serves as a tonic and is greatly relished by them. Feed every two or three hours just what they will clean up quickly. After the first few days the egg may be omitted and the food slightly moistened, but never be fed sloppy, sticky, nor too dry; cornmeal may also be added to the mixture.

After the first few weeks gradually begin feeding cracked corn and shorts or bran, mixed and moistened as stated above; whole wheat may be added to the above mixture, but a great portion should be grass food.

They should not be allowed to get wet; their water should always be fresh but not cold, and plenty of sand should always be near, tho the sand should never be mixed with their food.

Goslings require dry and warm quarters at night, at the same time plenty of ventilation, and their quarters kept clean and sanitary; damp quarters will cause them to become lame. Their sleeping compartment is best when thickly bedded with straw.

After the first week, when the weather is warm and dry, they will grow faster when given free range to roam about, for they enjoy feeding on tender green grass.

If hens are used for incubation they should be kept free from lice by frequently dusting them with a good insect powder.—E. C., Kan.

### FEEDING THE BABY CHICKS

The matter of greatest importance in feeding the baby chick is not how much to feed but how little.

When the chick is hatched the yolk is taken into the body, nature thus providing nourishment for the first few days. All that is needed at this time is a warm, comfortable place, not too crowded, and the chick will gain size and strength.

In a corner of the brooder house I always have a pile of clean sand, and the chicks are allowed to go to this at all times. Sand or grit should be the first thing eaten by the baby chick.

On the third day after hatching, I place drinking fountains of sour milk in the pen—two or three dishes—and see that each chick gets at least a taste. For the sour milk destroys all germs and puts the digestive system in good condition for the food a few hours later. My chickens always have all the sour milk they can drink and I have never had any digestive troubles in my flock.

After a few hours I follow the milk feeding with a meal of some good commercial chick food. Just give enough so that the chicks will clean it up in a few minutes. Feed often but little at a time. I usually feed five times a day for the first few days, then four times a day is often enough. Feed regularly; the chicks will soon learn when it is feeding time and be waiting for you.

For the first week feed the commercial chick food. Hard-boiled eggs are very good to feed. Grind them up, shells and all and mix with the chick food. As I have plenty of sour milk, I feed some of it in the

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form of curd; this is more concentrated and the chicks will naturally consume more of the elements necessary for growth.

One meal a day should consist of a scratch food thrown in litter so that they will have to exercise for it. For this there is nothing better than oatmeal. After the first few days, clean drinking water should be kept before the chicks all the time.

After the chick is ten days old there is no danger of overfeeding. At this time they should have free access to a good developing mash. I mix my own mash as it is cheaper. One that I have found very satisfactory is: Equal parts of bran, middlings, ground oats, ground corn (or barley), and a liberal sprinkling of charcoal and salt.

As the chick gets older I gradually reduce the amount of chick food and increase the scratch food and add small grain to their diet. After they are three weeks old I substitute the grains entirely. Wheat is about the best and later cracked corn and oats. By the end of six weeks the chicks should be large, vigorous and well feathered.

Feed for rapid growth and that means, feed liberally.

My broilers are ready for the market at ten weeks of age, and average two pounds each. I try to get them off as soon as possible so that I can give the pullets every advantage. Feeding for egg production means feeding well from the time the chick is hatched.

My pullets, Barred Rocks, fed in this way, always start laying when they are about six months old.—K. A. T., N. Dak.

### SUCCESS WITH EARLY CHICKS

Unfavorable weather often has much to do with one's success with the early hatched chicks. The little fluffy fellows are hatched in perfect condition and start off well and then come a few cold rainy days in which we are apt to lose all of them unless we have extra good sheltering quarters. It matters not whether the chicks are to be raised with hens or brooder stove, we must have dry warm quarters for either method.

One of the biggest mistakes ever made in building a brooder house for the little chicks is in putting in a concrete floor. Concrete from being in constant contact with the ground surface is inclined to be just a trifle cold especially in cold weather and this cold floor surface is sure to draw dampness from the warmer air immediately over it. Cold damp floors are the very worst thing possible for small chicks. Leg weakness soon develops in spite of litter and daily cleansing and a chick once in this condition rarely survives. It is almost certain death and those that do survive never pay for their feed and care. Little chicks need only a very small amount of litter scattered over the floor, as the litter on a concrete floor soon becomes damp. It prevents the heat from reaching the concrete even at the best and being cool collects moisture even as the cement. A good tight board floor which can be regularly scalded and purified is the only satisfactory flooring material for the early hatched chicks. The chicks that come along in the warm days of May even, need a tight wooden floor occasionally in a special house when the May rains set in.—W. L. H.

### MITES ON HOUSEPLANTS

Enclosed find three leaves of a houseplant. I would like to know what kind of disease it is and how to cure the plant of it.—F. P., Ohio.

The leaves you send are covered with egg-masses of mites, probably Bryobia. You can destroy them by removing them with a stiff brush, or by washing the leaves in kerosene emulsion. If these eggs are only found on a few leaves the easiest method would be to cut off the leaves and burn them. When they begin to hatch you can kill them by spraying with kerosene emulsion or nicotine sulphate.

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Whatever styles of tubular flashlights you have, be sure to keep them loaded with these new Eveready Batteries. They fit and improve all makes of flashlights. They give more light, and they last longer.



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# EVEREADY FLASHLIGHTS & BATTERIES



## White Diarrhea

**Remarkable Experience of Mrs. C. M. Bradshaw in Preventing White Diarrhea**

The following letter will no doubt be of utmost interest to poultry raisers who have had serious losses from White Diarrhea. We will let Mrs. Bradshaw tell of her experience in her own words:

"Gentlemen: I see reports of so many losing their little chicks with White Diarrhea, so thought I would tell my experience. I used to lose a great many from this cause, tried many remedies and was about discouraged. As a last resort I sent to the Walker Remedy Co., Dept. 220, Waterloo, Iowa, for their Walko White Diarrhea Remedy. I used two 50c packages, raised 300 White Wyandottes and never lost one or had one sick after giving the medicine and my chickens are larger and healthier than ever before. I have found this company thoroughly reliable and always get the remedy by return mail.—Mrs. C. M. Bradshaw, Beaconsfield, Iowa."

### Cause of White Diarrhea

White Diarrhea is caused by the Bacillus Bacterium Pullorum. This germ is transmitted to the baby chick through the yolk of the newly hatched egg. Readers are warned to beware of White Diarrhea. Don't wait until it kills half your chicks. Take the "stitch in time that saves nine." Remember, there is scarcely a hatch without some infected chicks. Don't let these few infect your entire flock. Prevent it. Give Walko in all drinking water for the first two weeks and you won't lose one chick where you lost hundreds before. These letters prove it:

### Never Lost a Single Chick

Mrs. L. L. Tam, Burnetts Creek, Ind., writes: "I have lost my share of chicks from White Diarrhea. Finally I sent for two packages of Walko. I raised over 500 chicks and I never lost a single chick from White Diarrhea. Walko not only prevents White Diarrhea, but it gives the chicks strength and vigor; they develop quicker and feather earlier."

### Never Lost One After First Dose

Mrs. Ethel Rhoades, Shenandoah, Iowa, writes: "My first incubator chicks, when but a few days old, began to die by the dozens with White Diarrhea. I tried different remedies and was about discouraged with the chicken business. Finally, I sent to the Walker Remedy Co., Waterloo, Iowa, for a box of their Walko White Diarrhea Remedy. It's just the only thing for this terrible disease. We raised 700 thrifty, healthy chicks and never lost a single chick after the first dose."

### You Run No Risk

We will send Walko White Diarrhea Remedy entirely at our risk—postage prepaid—so you can see for yourself what a wonder-working remedy it is for White Diarrhea in baby chicks. So you can prove—as thousands have proven—that it will stop your losses and double, treble, even quadruple your profits. Send 50c for a box of Walko, or \$1.00 for extra large box—give it in all drinking water for the first two weeks and watch results. You'll find you won't lose one chick where you lost hundreds before. It's a positive fact. We guarantee it. The Leavitt & Johnson National Bank, the oldest and strongest bank in Waterloo, Iowa, stands back of this guarantee. You run no risk. If you don't find it the greatest little chick saver you ever used, your money will be instantly refunded.

Walker Remedy Co., Dept. 220, Waterloo, Iowa



TEACH YOUNG CHICKENS TO ROOST

An Illinois farmer employs a novel method to accustom his young birds to the use of a roost when the hen "disowns" them. He has built a little shelter in which is provided a number of low down roosts. When he finds that a hen has deserted her brood of growing youngsters he rounds them up at dark and places them on the roosts under the little shelter. After a couple of nights the young birds seek out the roosts themselves. When cold weather sets in, the occupants of the shelter are transferred to the regular poultry house where they are confined for several days to accustom them to the new order.

This method has several advantages. For one thing it does away with the young birds seeking out roosting places in orchard trees, on implements stored in various buildings, or on wood piles and other exposed situations. It keeps the young fowls out of the regular poultry house where the older birds would annoy them. When it comes time to get the birds accustomed to indoor surroundings the task of doing so is greatly simplified.—O. C.

### A SURE CURE FOR BROODINESS

We tried everything under the sun in our efforts to break up broody hens. The red string around the tail, the clock under the straw in their nests, dipping them in the watering trough, etc., were but jokes.

After we had tried every fool contrivance we ever heard of, we set about experimenting for we were learning, to our sorrow, that broodiness in the farm flock means nothing but loss and damage. The broody hen not only shirks her own quota of egg production but damages the product of her more industrious flock-mates. This loss on a single farm reaches an amount well worth considering—and it can easily be prevented. And this is the way to do it and you will find it so and thank your stars that you read this short article when you have tried it.

Every poultry house should be provided with a slat-bottomed coop for broody hens. This should be built in three sections. As soon as a hen shows signs of broodiness she should be penned in the coop and be well fed. After three days she can be returned to the flock. By having three coops one can be emptied and refilled each day. Usually three days is sufficient to break up a broody hen, provided she is placed in the coop as soon as she shows an inclination to broodiness. The longer hens are permitted to sit the more difficult it is to break them up. Broodiness is a cause of considerable loss and provision should be made for convenient equipment to combat this expensive habit. If broken up the hens will soon return to laying.—W. D.

**SALT FOR FEATHER PULLING** "Feather pulling" is perhaps one of the most annoying habits to which poultry may become addicted and, if not overcome very soon, will result in the ruin of a great many good fowls. If the habit, when first noticed, is confined to a few fowls, as is usually true, it may be difficult to locate the offenders.

A few years ago I engaged in the purchase of market poultry and as I often found myself with more fowls on hand than I could conveniently dress for shipment within twenty-four hours, I was compelled to furnish some exercising room for the surplus. In consequence, my own fowls

## SPRAY

Your Hogs, Cattle, Chickens, Trees and Garden

The sureway to bigger profits

You will have finer stock, get bigger prices, gather more eggs and make more money if you write today and ask us about spraying for farm sanitation. Do away with hog cholera, lice and other loathsome pests and diseases. Ask our advice.

**BIG PRICE REDUCTION** on our complete line of power, barrel, bucket, wheelbarrow, compressed air and other sprayers. Prices at rock bottom. Never was there a better time to buy.

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**HAYES FRUIT-FOG Sprayers**



**Conkey's**

**THE ORIGINAL Buttermilk Starting Feed**  
It prevents the big losses due to weakness and disease, and gives your chicks the quick get-away that produces early broilers and layers. Feed it for the first 8 weeks. We use Semi-Solid Buttermilk only—blended in an exclusive Conkey way with pure, sweet grain. The buttermilk puts an edge to the appetite, while the lactic acid helps to sweep away the germs that cause disease. Ask your dealer or write us. Big Poultry Book for 6c stamps.  
The G. E. Conkey Co.  
6543 Broadway, Cleveland, O.

**Saves the Chicks**

**New Way of Hatching Makes More Money!**

A small Porter Incubator earned \$225 in 3 hatches for Mrs. K. Pfaffenberger, Gillette, Ark. An inexperienced operator. Hundreds tell of similar profits. YOU, too, can make easy money with a **Porter SOFT-HEAT INCUBATOR**. Gets a plump, healthy, perfect chick from every good egg. Moist warmth keeps glass shells brittle and membranes tender. No top ventilation, no crumbles. Center heat round new chamber. No tubes or pipes. **ALL CONTROLS AUTOMATIC.** Save 300% in money time and labor. One filling 3 to 4 qts. of oil. To hatch, only 8 minutes' daily care needed. Children succeed with Soft-Heat. We pay express. Free Book! Tells all about Soft-Heat and Free Book how it will make money for you. Send name for free copy today.  
PORTER INCUBATOR CO.  
307 Porter Bldg., Blair, Nebr. Egg Sizes

**Spend A Cent; Save \$1.50**

I will send you a dollar's worth of worm expeller and conditioner, enough for 100 chickens. Feed it to your flock and if your hens don't increase in vitality and get healthy, don't pay me a cent.

Many chickens are weak, bloodless and infertile from worms and parasites. A thrifty hen is worth \$1.50, and a healthy hen lays twice as much as a hen with worms.

To save all your flock from worms and parasites and get quick results and healthy fowls, try a dollar's worth of N-&H at my risk. Pay nobody until you are satisfied. I trust poultry people. Just send name, today, to Dr. E. J. Netherton, N-&H Co., 349 No. 7th St., Kansas City, Kansas

**Detroit Incubator \$12.45**

140-Egg Size—Guaranteed—has double walls, copper tank, full-size nursery, automatic regulation thermometer built so that chicks cannot break it when hatching. Detroit Brooders, too. Double walled, hot water heated. Write for special low price on both machines.

**Detroit Incubator Co.**  
Dept. 29 Merritt St., Detroit, Mich.

**BABY CHICKS** 8c and up. Post-paid and guaranteed. We hatch 12 varieties of Standard-Bred chicks and ducklings, at prices as low as common hatchery chicks. Large illustrated catalog and poultry guide free. Write today. Superior Poultry Farm, Box 8 F, Windsor, Mo.

Read the advertisements in Successful Farming. They point the way to better buying.

were crowded into much smaller quarters than should have been allowed.

At the approach of spring, when I began selecting the desirable birds for the mating pens, I noticed that several of the best were looking rather ragged and shabby, altho they were otherwise in the best of condition. As I worked among them that morning I caught two or three in the act of feather pulling and immediately isolated them from the rest hoping that I had been soon enough to prevent the habit from becoming general. I hoped in vain, however, and before the end of the week I had concluded that my mating pens would remain vacant that year unless some remedy could be found for the evil practice.

With this end in view I sought the advice of an elderly poultryman.

"Have you been crowding your fowls?" he inquired.

I was forced to admit that I had. "Do you feed any salt in the mash?" "Never," I replied. "I always supposed that salt was bad for poultry."

"There's your trouble then," he answered briefly. "Overcrowding induces laziness and laziness breeds bad habits in poultry as well as humans. Go home and salt the mash as you would potatoes for your table; provide a deep litter in the poultry house to make the fowls work for a living and give them plenty of room. You'll cure them. A pinch of salt per hen will do."

The old gentleman's advice was brief and to the point, and when put into practice produced almost immediate results. I have had no trouble from this source and once each week I continue to salt the mash feed. Oftener would do no harm.

I have since found that a great many poultrymen are afraid to feed salt, and serious trouble may result from an overdose, but when used merely as a seasoning, as my friend advised, it supplies a very necessary element to the diet and is entirely harmless.—G. H., Wis.

### THE LIGHTS MADE THEM LAY

With electric lines running here and there thru country districts and with both these lines and farm power plants getting more numerous, many farmers are finding that it pays big returns to use electric lights on the hens to increase winter eggs. The experience of Mrs. P. C. Engle, a farm woman of Pulaski county, Indiana, will give folks an idea of how much such an installation will cost and something of the returns it will give. A power line runs along the road in front of the Engle farm and the house was already wired.

Says Mrs. Engle: "After the poultry tour, we decided to put in lights and see what results we could get. The work was done on November 1, 1921, and the total installation, alarm clock and all cost \$11.80. The alarm clock is so arranged that by setting it at the proper time, the switch is turned on thus rendering it unnecessary to interrupt our sleep. Every three days we got them up fifteen minutes earlier until we were getting them up at 3 A. M., thus getting them to work about thirteen or fourteen hours a day.

"Here are the results shown on the egg record kept by days. On November 2 we were getting a 2 percent egg production; by December 1 they were going 25 percent and on January 1, 1922, they had increased to 39 percent and on the 14th of January they hit the 50 percent production mark. We are not letting them get any higher than this as others who have had experience say that above 50 percent production is the danger zone. We want no zero days in egg production."—I. M.

Are you planning any cement work this year? If so, a cement mixer will save you a lot of hard labor. Several mixers are advertised in Successful Farming.

## Biggest Hatches Strongest Chicks

That's what you'll get with my Belle City Hatching Outfit. My Free Book "Hatching Facts" tells how—write for it.

Get into this profit-paying business now—you can't lose—it's money for you right from the start; early hatches pay best. Be independent—make all the profit by doing your own hatching the quickest, surest and easiest way with my

**\$13.95 140-Egg Champion Belle City Incubator**

With Fibre-Board Double-Walled Construction used for over seventeen years—Copper Hot-Water Tank—Self-Regulating Safety Lamp—Thermometer and Holder—Deep Chick Nursery—Egg Tester. \$7.95 buys 140-Chick Hot-Water, Double-Walled Belle City Brooder—Guaranteed to raise the chicks. You save \$1.95 ordering both together—a complete Hatching Outfit for only **\$19.95**

### Express Prepaid East of Rockies

And allowed to points beyond, vouched for by over 911,000 users. Save time—thousands order direct from my advertisement every year. Order now and easily share in my special

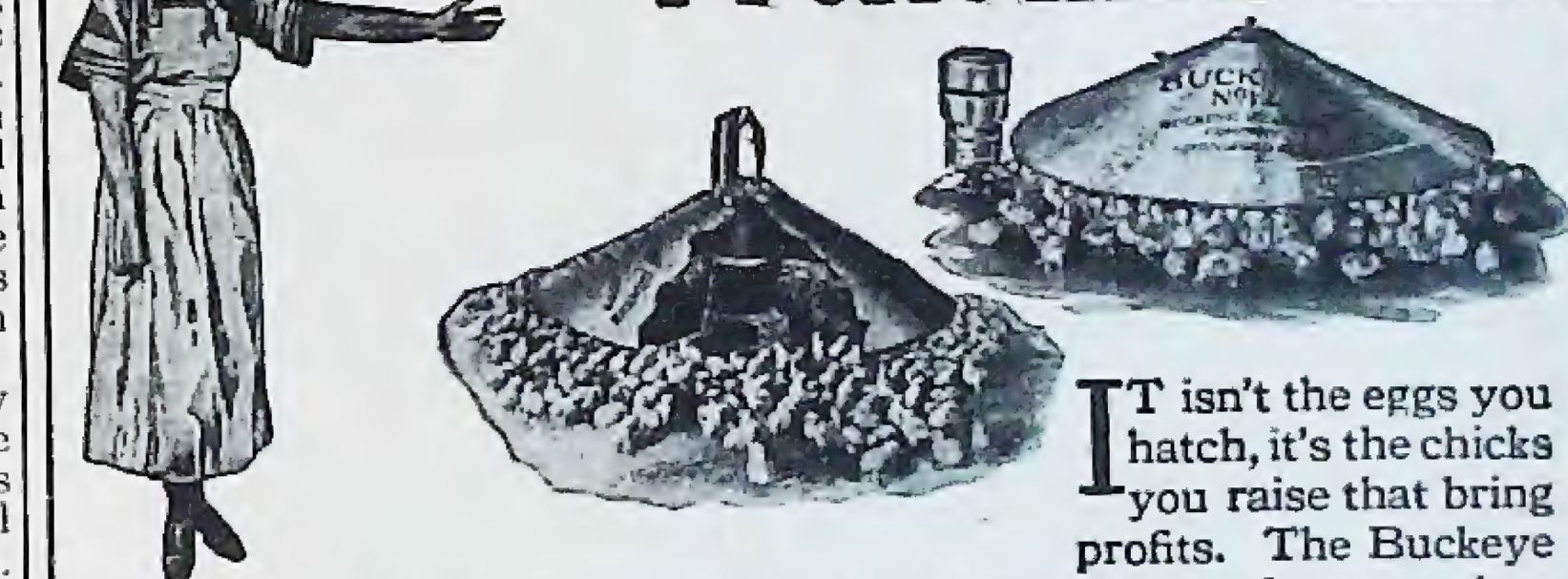
### Prize Offers of \$1000 in Gold

Or write me today for Free Book "Hatching Facts" and get all the particulars. It gives newest ideas, easiest plans and quickest ways to make poultry pay big. Jim Rohan, Pres.

**Belle City Incubator Co.**  
Box 42 Racine, Wis.



## Buckeye Brooders Are Profit Insurance



It isn't the eggs you hatch, it's the chicks you raise that bring profits. The Buckeye

"Colony" Brooders are insurance toward success because they raise every raisable chick at a fourth the labor and half the expense. They prevent crowding, overheating and chilling, which cause that awful mortality that takes the heart out of the raiser. With them chicken raising becomes profitable and is no longer a gamble.

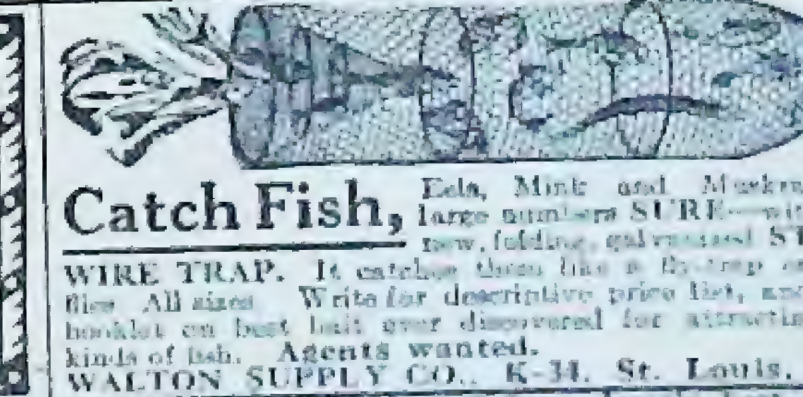
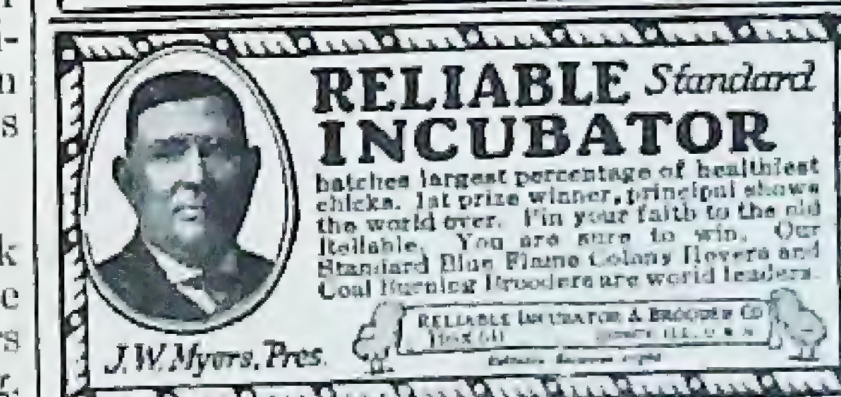
### WRITE YOUR GUARANTEE

Buckeye "Colony" Brooders are made in three sizes and burn coal, gas or oil. For years we have urged the purchaser to write his own guarantee on these brooders and we will sign it and refund the money if at the end of thirty days the purchaser is not satisfied.

Our new booklet, "The Revolution in Chick Raising" gives the reasons for this wonderful assurance of success, tells how poultry raising may be made profitable—and proves our statements. Get it for your guidance. Sent free on request.

**THE BUCKEYE INCUBATOR COMPANY**

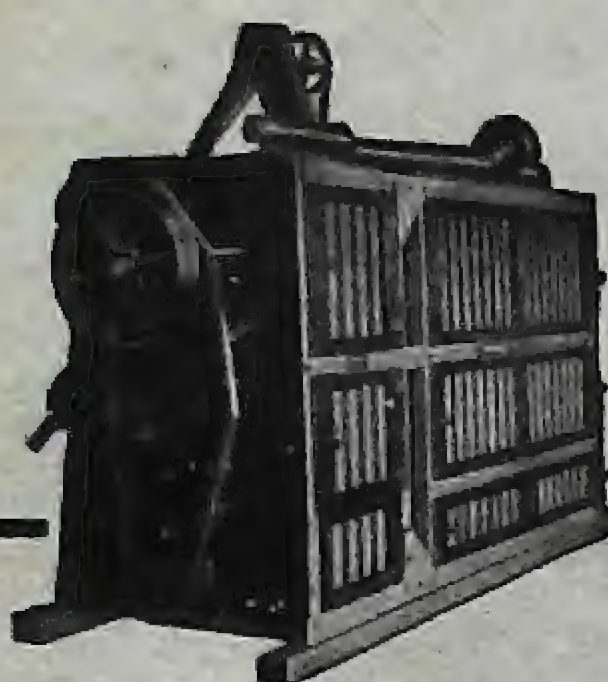
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**R. C. BR. LEGHORNS**—Kulpa great laying strain size and quality. Eggs \$1.50 per 15, \$4 per 50 Postpaid. S. W. Hensel, Basil, O.

**ANGONA HATCHING EGGS** (from Iowa's best stock) \$1.00, setting \$6.00, 100. **BIG "K" FARM, KELLOGG, IOWA**





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**\$250. to \$500. per Month**

BE the miller in your community! Establish yourself in a permanent business paying steady profits throughout the entire year—you need no previous mill experience. With this new "Community Marvel" self-contained, one-man Roller Flour Mill you can produce 15 barrels of best creamy, high yield flour every day.

Get into this profitable and dignified business. Supply your community with flour and feed by grinding the home-grown wheat in your own mill. You make not only the regular milling profits but extra added profits as well by milling "A Better Barrel of Flour Cheaper" with the new "Community Marvel" Mill.

Sold on 30 day's FREE TRIAL. Mill costs only \$250. All you need is a 6 h.p. engine and a small house to be on the road to financial independence. When you purchase a "Community Marvel" Mill from us, you are privileged to use our nationally advertising brand—

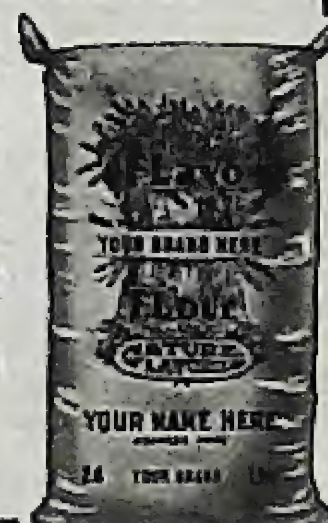
#### "Flavo" Flour

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There is a demand in your community right now for "Flavo" Flour. Are YOU a live enough business man to meet it? Write at once for our free booklet "How to Be a Miller."

Do it now before someone else in your community takes advantage of this wonderful money-making opportunity.

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### Baby Chicks

Customers report pullets lay all winter. 20 varieties to select from. 1,000,000 chicks via prepaid parcel post, safe delivery guaranteed. Pleased customers in every state. 19th season. Catalog FREE.

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**MILLER** BABY CHICKS ARE BRED FOR HEAVY EGG PRODUCTION

### BABY CHICKS

We furnish Pure Bred Chicks of the finest quality from high egg-producing stock. Flocks built directly from laying contest winners. We have seventeen breeds. Write for our free illustrated catalogue and price list.

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Some of the World's Great Laying Strains

### CHICKS

From the WORLD FAMOUS TOM BARRON English White Leghorns, Free Catalog. Superior Poultry Farm, Zeeland, Michigan. Box 2057.

**King's Pure Bred Chix** Vigorous, superior quality. White and Brown Leghorns, Rocks, Reds, Wyandottes, Orpingtons. 200,000 in 1922. Write for valuable free catalog and directions for care of chix. King Chick Hatchery, Box 132, Iowa City, Iowa.

### QUALITY Chicks and Eggs

20,000 PURE BRED BREEDERS. 12 varieties. Best laying strains. Incubate 10,000 eggs daily. Catalog Free. Prewar prices. Free live delivery.

**Missouri Poultry Farms, Columbia, Mo.**

Successful Farming advertisers must make good their promises. It is our business to see that they do. We protect you.



### EXPERIENCE POINTS WAY WITH TURKEYS

The turkey is the original "all American" game bird and like all other aborigines, bids fair to be exterminated by poultry imported from the old country. Yet judging from prices paid for turkeys during the past winter, a good many could profitably raise a few. The turkey population in Indiana alone has been reduced fifty percent during the last ten years, according to H. A. Axtell, a successful turkey raiser of Monroe county.

"Folks make a mistake when they say that a turkey must have range," says Mr. Axtell. "I once kept 125 turkeys on twelve acres of land and they had to share this range with twelve hundred chickens."

Relative to those points upon which the prospective turkey raiser wishes further light, Mr. Axtell said, "We find that barrels make the best nests. These are laid down, facing the south. We put about five inches of straw in the bottom and tack a narrow board to the barrel to keep the straw in. I find it best to keep a nest egg in the nest and for this, one turned out of wood and painted to represent a turkey egg as near as possible fills the bill. If no nest egg is left in the nest and the eggs are gathered every day, the turkey hen gets wise and after a while will peck a small hole in each egg she lays before she leaves the nest."

"The turkey hens will commence to lay about the first of April and they average from eighteen to twenty-four eggs the first clutch. This time they are easily broken up from setting. In a few days, the hen will start to lay another clutch with from fifteen to eighteen eggs, and this time she is a little more persistent to set, but can be broken up. She will go to laying once more and will lay about fifteen eggs. It is hard to break the hen up the third clutch she lays; she persists in bringing off the poults."

"Do not disturb the turkey hen while she is on the nest. Give her a good dusting with insect powder before she starts to set and then apply this twice during the four weeks that she is hatching. We frequently hatch the poults with hens but never give them to hens to take care of after they are hatched. Hens do not know how to take care of young poults."

"Turkeys must have painstaking care in April, May and June, but the rest of the year they need little attention. They do not need any houses, and altho we provide shelters for them to use during wet weather, they never use them, preferring to roost in the tops of the highest apple trees in the lot. The fence around the lot is eight feet high and we put perches in the trees for the turkeys to roost on."

"For good hatching eggs, we have had better success with young stock than with old. By all means, keep old toms away from the young hens. Inbreeding is bad enough with other animals, but it is especially bad with turkeys. Each year we get unrelated males and keep one tom for each twelve hens. It is really better to keep one tom for every six hens and then change toms every other day to insure best results."

"Above all things for success with turkeys, do not feed too much. We do not feed anything thru the fall and summer except to keep a hopper full of bran and shorts. We feed them nothing but corn

### DO YOU KNOW HENS?

In a 365-day test on the Government Breeding Farm, Beltsville, Md., a pen of 30 standard-bred W. I. S. Leghorn pullets (Oak Dale Strain) produced eggs at a feed cost of 6.7 cents per dozen and made a profit of \$3.41 per pullet over feed cost. Think! A profit of \$102.30 for milk cows—more than most farmers make on four milk cows.

Write to Oak Dale for complete data-sheets on above test, also beautiful catalogue, booklet on feeding and breeding. FREE—no obligation.

Oak Dale is the home of most carefully-bred Leghorn strain in the world. Winter layers; produced eggs at less than 1 cent per egg; undefeated in the world's greatest shows. Baby chicks and guaranteed fertile eggs shipped via parcel post.

**OAK DALE FARM, Box 51, Austin, Minn.**

### BEST FOR BABY CHICKS

3 Pans 75c—12 Pans \$2.50

Postpaid—Fit any Mason Jar—Easy to Clean—Postpaid AMERICAN POULTRY JOURNAL, 113 Peterson Bldg., Chicago. World's Oldest, Largest, Best Poultry Paper—1 yr. 75c, 3 yrs. \$2.00 or \$1 will buy 3 pans and American Poultry Journal 4 months.

### PEARL GRIT MAKES MORE EGGS

PEARL GRIT serves double purpose. Keeps poultry healthy and makes hens lay. Prove this by sending us name of your dealer and 10c for 1 lb. pkg. prepaid. Booklet of Poultry Remedies. The Ohio Marble Co., 700 Ash St., Lima, O.

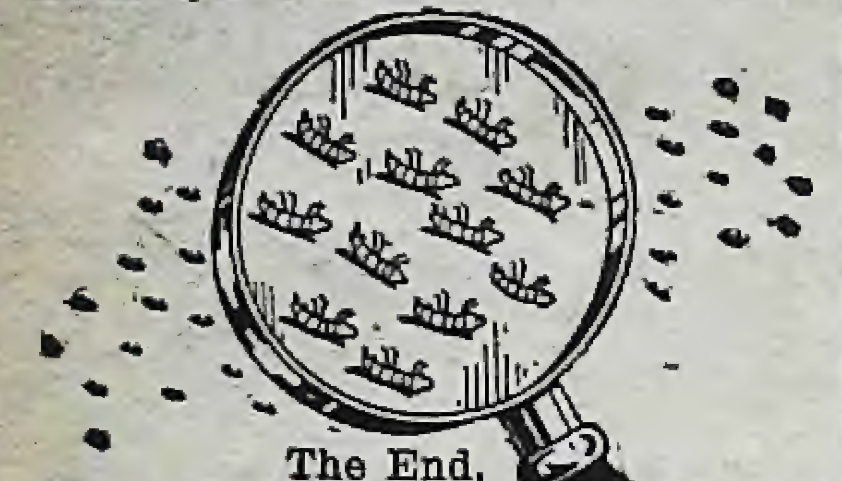
### Barred Plymouth Rocks

at the Illinois Laying Contest our Strain won Grand Champion Pen also, 1st, 2nd, 5th, 6th, 7th, 8th, 9th, 10th, 11th, 12th, 13th, 14th, 15th, 16th, 17th, 18th, 19th, 20th, 21st, 22nd, 23rd, 24th, 25th, 26th, 27th, 28th, 29th, 30th, 31st, 32nd, 33rd, 34th, 35th, 36th, 37th, 38th, 39th, 40th, 41st, 42nd, 43rd, 44th, 45th, 46th, 47th, 48th, 49th, 50th, 51st, 52nd, 53rd, 54th, 55th, 56th, 57th, 58th, 59th, 60th, 61st, 62nd, 63rd, 64th, 65th, 66th, 67th, 68th, 69th, 70th, 71st, 72nd, 73rd, 74th, 75th, 76th, 77th, 78th, 79th, 80th, 81st, 82nd, 83rd, 84th, 85th, 86th, 87th, 88th, 89th, 90th, 91st, 92nd, 93rd, 94th, 95th, 96th, 97th, 98th, 99th, 100th, 101st, 102nd, 103rd, 104th, 105th, 106th, 107th, 108th, 109th, 110th, 111th, 112th, 113th, 114th, 115th, 116th, 117th, 118th, 119th, 120th, 121st, 122nd, 123rd, 124th, 125th, 126th, 127th, 128th, 129th, 130th, 131st, 132nd, 133rd, 134th, 135th, 136th, 137th, 138th, 139th, 140th, 141st, 142nd, 143rd, 144th, 145th, 146th, 147th, 148th, 149th, 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## Try the New Way To Kill Lice

A hen worried to death with lice can not lay if she wants to. You might as well "throw money to the birds" as feed high priced food to toady chickens. It's a dead loss—don't do it. Use "LICECIL." No dusting, no dipping, no painting. Hang up the bottle. It acts like magic. Testimonials from every state in the union tell of wonderful results from its use. Simply put a few drops in nests and on roosts and hang uncorked bottle in coop or hen house. Powerful vapors which leave bottle through a wick and are heavier than air descend in a misty form, penetrating feathers, cracks and crevices everywhere. Lice, mites, chiggers, bed bugs, ants, roaches, etc., have no lungs, and they breathe through the pores of the body, and are destroyed by Licecil vapors. Will not injure



The End.  
Bottle, \$1.00; 3 bottles for \$2.50; 12 bottles, \$9.00. Prepaid. Money back if it fails.  
American Supply Company, Dept. 37, Quincy, Illinois



## WAR Is Still On!

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## RAT-NIP

Kills rats quickly; not one can escape. "As attractive to rats as catnip is to cats." They can't resist it. Simplest method known.  
30c per tube, at most druggists or sent direct if dealer can't supply.

BUFFALO SPECIALTY CO.  
Buffalo, N. Y.

## RHODE ISLAND REDS

### Best All Purpose Breed

They'll make you more money than any other poultry breed. Egg laying contests show Rhode Island Reds lay more winter eggs, larger eggs, than any other breed. They mature quick, begin laying early. Rhode Island Reds combine egg and meat qualities in highest possible degree. Make best market fowls. Hens make excellent mothers. Most beautiful, most popular breed today. Ideal fowl for farm or city lot. We tell you where to buy.  
Rhode Island Red Journal Only Journal in World devoted exclusively to Rhode Island Reds. Tells how to make big money with them—how to buy, sell, and breed. All about latest fashions, prices and their operation. All about poultry houses and how to build them. It's an encyclopedia of chickendom. You need it. Only 20c.  
Rhode Island Red Journal, 5125 E. Bremer Ave., Waverly, Iowa.

## SHOENAKER'S BOOK ON POULTRY

and Almanac for 1922 has many colored plates of fowls true to life. It tells all about chickens, their prices, their care, diseases and remedies. All about latest fashions, prices and their operation. All about poultry houses and how to build them. It's an encyclopedia of chickendom. You need it. Only 20c.  
C. C. SHOENAKER, Box 931, Freeport, Ill.

## Hackett's GAPE CURE

It's a powder. Chicks inhale the dust. Whole brood treated at once. Money back if it fails. Package 40c, postpaid. Safe, Simple, Certain Address HACKETT'S GAPE CURE CO., HILLSBORO, MD. Dept. K



## BARREL FOUNTAIN SAVES LABOR

A practical poultryman used the arrangement shown in the illustration as a means of saving labor in watering his fowls. The spigot at the base of the barrel is so adjusted that it permits the water to drip slowly into the pan underneath. By taking a little heed to it early in the season one soon acquires the knack of so regulating the drip that it just about takes care of the chickens' needs. The stakes set around the pan are merely to prevent it being overturned. The barrel is filled from a hose daily and when this is done there is little other oversight required. On hot days the spigot is permitted to run a bit more freely. If the pan overflows no damage is done. If the chickens consume the water faster than it runs into the pan the latter soon fills as soon as the number of birds about it diminishes.—O. C.

## THE KIND OF HOGS THAT SELL

Continued from page 40

the number of pork chops required per pound to suit the city man's appetite, and likewise his stomach, the more nearly he will receive the top price, for a packer can only pay in proportion to what he can get out of a carcass.

Purebred hogs come more nearly supplying these particular qualities which the packer demands in a carcass. The farmer who learns that these things herewith enumerated must be in the carcass he sends to market, in the proportion outlined, will be the one who gets the top more often than his neighbor who raises just hogs, like his father did before him. From now on farmers who market hogs must pay more attention to meeting the consumptive trade in the type of animals they produce.

It is going to be less difficult to get started with purebred hogs in 1922 than it ever has been before. The inflation has disappeared from the purebred industry and breeders have realized that it is much better to get a few small breeders and farmers started with a few purebred sows and help them to make good, than to get a record price from some outsider who is not very prompt in his settlements.

For several years a successful breeder in Indiana has had agents selling purebred hogs to small farmers on different forms of contract and payment. When he first went into raising breeding stock for sale, he attempted to do as many others are now doing. He tried to hold sales and sell to other breeders and did not make any effort to sell to the farmers in his own county. As time went on he began putting out agents to solicit among the farmers and formed what was called a "unit," by which several farmers in a community would buy bred sows and an unrelated boar to use for second litters. He found by experience that it took more time to sell a number of farmers in a unit than it took to sell the same number of farmers as individuals for the time was mostly consumed in getting the unit to all

## Wipe Out Every Rat and Mouse

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Rats, Mice, Gophers—in fact all Rodents can now be wiped out easily and quickly. Imperial Virus will do it. This new discovery, is a fluid, true Virus. Entirely harmless to humans, poultry, stock, pets, etc.



Infects Rodents only. Greedily eaten on bait. Sets up burning fever. The pests communicate it to others, and all die outside, hunting air and water. Imperial Virus is put up in sealed bottles, thus insuring full strength and potency. The safe, sanitary method to overcome these pests. Protect your poultry, especially baby chicks and egg hatches

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Here's how! Send \$1.00 today (currency, M. O. Check, etc.) and we will ship you by return mail, postpaid, two regular, full sized (double strength) \$1.00 bottles of Imperial Virus. Use one to rid your place of these pests, and sell the other to a neighbor, thus getting yours free. Special inducements to represent us.

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### ONE DROP

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A few drops in the drinking water cures and prevents white diarrhoea and other chick diseases. Small bottles 5c, half pint \$1, full pint \$1.50. At druggists, or by mail postpaid.

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### STERLING QUALITY CHICKS

In Barred, Buff and White Rox, White Wyandottes, Reddish Combs, Buff and White Orpingtons, Black Minorcas, S. C. White and Brown Leghorns, R. C. White Leghorns, Black Spanish and Anconas. Prices reasonable. Catalog FREE.

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**B. H. Greider, Box 43, Rheims, Pa.**

agree on some phase of their contract. His agents at the present are selling to the farmers as individuals. The aim is to make each purchaser a successful breeder and to help him to not only make good in meeting the demands of his contract, but to sell his hogs as well. The contracts under which they are operating all have a selling phase which provides the sows an opportunity to pay for themselves in progeny and this is one of the strong inducements. In fact there are three different plans, all of which contain a selling phase.

One plan provides that the seller will deliver a bred sow, safe in pig to a national grand champion boar, for \$150. Half of the purchase price is to be paid at time of delivery. The remaining half may be paid with one thousand pounds of pork, within a year from the time of delivery.

Another form of contract permits the owner to pay for the sow with three 325-pound gilts; or two 250-pound gilts and \$75.

The most popular form of contract is that paying \$75 in money and delivering one thousand pounds of pork of any kind averaging 200 pounds. Most farmers prefer this because it permits them to save their gilts to build a herd.

The result of this method of selling purebred breeding stock to small farmers in the same county has been that three years ago there were just two purebred breeders of that breed of hogs in the county, while today there are fifty that have availed themselves of this chance to get started with purebred stock. Since last May and up to September something over 200 bred sows have gone out over the adjoining counties to farmers on some one of the terms enumerated and last fall there were orders for 127 more to be delivered before winter set in. Along with the sale of bred sows were sales of boars which were sold outright for cash. Most of them at breeding age sold for right around \$75 each.

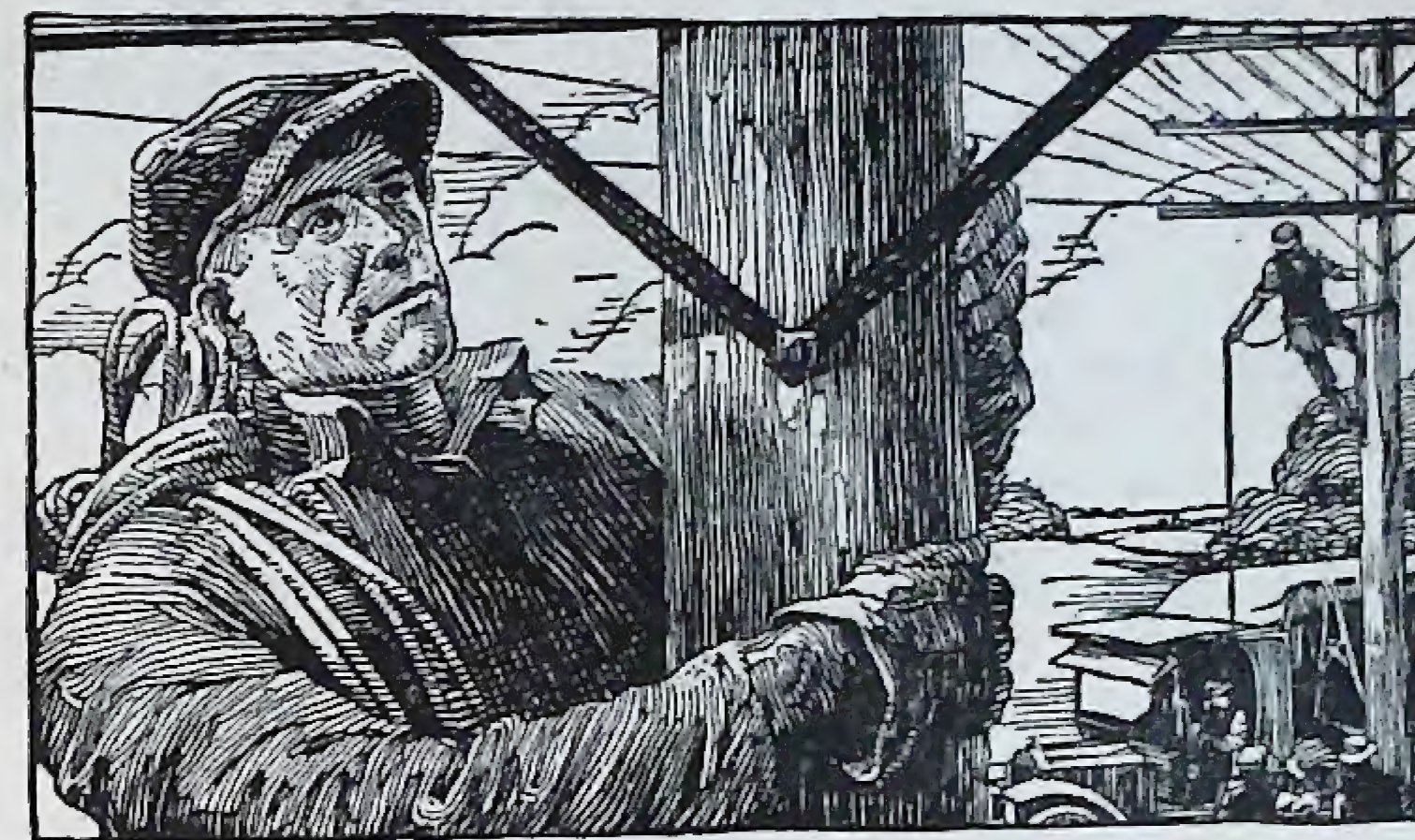
An accurate account has been kept of the cost of doing business in this way instead of selling by auction sale with the usual expense. Persons who have held auction sales recently, know something of the costs. So does this Indiana breeder. He has had four men on the road selling for him, but has managed so far to keep the expense down to \$7.50 a head.

The consumptive demand is for certain cuts in meats. As was pointed out in the beginning of this article, the public demands quality in meats as never before and that is the one thing the packer cannot put in. Neither can the feeder deliver quality if it is not bred in the animal he fattens for market. The purebred animal produces high quality meat to a much greater extent than does the scrub or grade hog. The records also show that purebred animals produce their gains with less feed than scrubs. Purebred hogs carry more of the high-priced cuts on the pork market and the packer will pay a higher price for purebreds, if properly fitted to suit his needs.

## WATERMELONS FAILED

I tried to raise watermelons last year but did not have a good one out of the dozen hills. They grew to a good size but would crack open inside and rot, but would look very tempting outside. Sometimes the whole inside would rot away leaving nothing but the rind. The vines were healthy looking. Was the soil too rich, or what was the cause?—M. S., Mich.

Nothing in particular can be recommended for the trouble affecting your watermelons excepting crop rotation. Do not plant watermelons on the same ground two years in succession or upon land where they have been planted previously within the preceding three or five years. There was no trouble with the soil being too rich in all probability. However, watermelons do best on a good, warm sandy loam.



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### SHRUBS ABOUT THE DOORSTEP

The steps up to the porch may not always be so excellently designed and proportioned as those in the picture, but there is seldom a walk and steps but what will be improved by shrubbery. Notice how the walk approaches the steps between shrubbery masses, and how the small mass of Japanese barberry just to the right of the steps and next the foundation of the porch sets off both foundation, steps and walk.

The suggestion offered by the picture gives about as good an idea of how to arrange shrubs about the steps and walk as could be asked. The nursery catalogs give full descriptions of all of the plants offered, together with the height to which they grow and sizes. With the descriptions contained in the catalogs generally very satisfactory shrubs may be chosen according to your own special needs.

The placing of the high shrubbery immediately in front of the steps and across the walk as you see it in the left of the picture, is a little unusual, but there is a very definite reason for that in this case. You notice the walk approaches the steps from an angle and by placing the shrubs where they are, it makes it apparent that the only place left for the walk to be placed is in its present position.

Shrubs well worth consideration are the slender deutzia, where it thrives, bridal wreath, Waterer's spirea, Anthony Thunberg's spirea, bridal wreath or Van Houtte's spirea, the Japanese rose, white kerria and the plum-leaved spirea.

A word of caution should be inserted here. Do not try to use too many different plants. Two or three varieties of shrubs are plenty for you about the doorstep. A large number of different varieties would cause a confusion which would be displeasing in the extreme. The really good effects are had with the simplest possible arrangement which accomplishes the purpose of tying in the steps and walk to the landscape.

### IN THE CORNER

Here is a suggestion for handling a corner in a little unusual manner, but in a way which is most attractive when good judgment is used in the choice of shrubs and plants.

As you will notice by the picture, the barn is located behind the trees and small shrubs which form the background to the rose bed in the immediate foreground. Enough space should be allowed between the rose bed and the fence or border, to permit the planting of quite large shrubs, to furnish a rather high screen between the barnyard and the rest of the yard. Such shrubs as varieties of the dogwood, high-bush cranberry, some of the taller sumachs, certain of the viburnums, all are good with smaller and lower-growing shrubs in front to bring them down and tie them to the lawn. However, whatever shrubs may be used in the border, let them be shrubs of a natural green color, for it is the rose bed in front which is the feature of this corner.

As the rose bed stands here, it is about twelve feet long of the shape of a half moon. One end of the crescent is filled with yellow roses carrying a tint of pink, the other end with pink roses. When the roses are in bloom, it is indeed a beautiful

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sight. In order to get the full beauty of such a landscape feature, it is essential that every care be taken in building the bed in order to have the roses in the fullest possible perfection. The earth should be dug out of the bed for a depth of about two feet. Cinders or large stones and gravel should be thrown into the pit to a depth of about six or eight inches to provide underdrainage. Cover this with coarse straw or leaves, mixing an abundance of well rotted barnyard manure with the top soil, fill the pit with this mixture until within six or eight inches of the top. Then with the poorer soil, or the sub-soil, fill the bed completely to the top. This puts the poorer soil on top, and this is exactly what you want. It compels the roots of the roses to go deep for plant food, and when the rose roots are deep in the ground, they will not suffer from lack



of moisture as they would if the roots were only in the surface soil.

When buying roseplants, get good plants. Poor plants have no place in such a bed. In order to be of lasting satisfaction it is necessary that the varieties be good and that the bed be permanent. See that the bed of roses is placed well back against the shrubbery and in a well protected, sunny place. A bed of any kind is out of place in the middle of the lawn, but set back against the shrubs with the green background it is truly beautiful.

### GROWING NASTURTIUMS

There are two types of nasturtiums, both very desirable for beds or borders where a free blooming, easily grown, flower is wanted. The flowers are fine for cutting, too. They will thrive on poor soil and will give even finer blooms there than on richer soil. The tall type will grow too much to vine if the soil is very rich, and yet with ordinary soil I have them better than the dwarf type. The flowers are larger and of deeper richer colors, the not so freely borne, and not held so much above the foliage, thus being less effective. The little compact dwarf plants on poor soil will be a solid ball of foliage and from this ball stems will protrude crowned by a bright colored bloom, so many of them that the plant is almost hidden. The flowers are smaller and less richly colored but are just as fragrant as the tall sorts. While the tall type are called climbers, they are not really climbers ordinarily. They do climb when on very rich ground and when given plenty of moisture and support, but they trail along the ground as usually grown, and when the soil is not rich they will form only large spreading clumps, the vines trailing from one to two feet only.—L. C.

### DISEASE OF MAPLES

Summer before last, our soft maples had something the matter with the leaves. There were black spots on the leaves and they were very much wrinkled. Is it anything serious and can you tell me what this trouble is?—L. C. B., N. Y.

It is probable that your maples are affected by the tar leaf spot, from the description of the trouble you give. Very little trouble will be had from this, if affected leaves are destroyed by burning in the fall. This should be carefully done and all affected leaves under and around the trees destroyed. Any remaining ones may cause more infection in the spring. The disease generally is not serious enough to warrant spraying, altho in exceptional cases, especially in nurseries, spraying with bordeaux mixture as the leaves develop may be desirable.

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## OUR BULLETIN

### LETTERS AND COMMENT

This department of Letters and Comments is for our critics, favorable and unfavorable. The views herein expressed by our subscribers are not necessarily our views. We do not ask you to agree with them or with us. We will publish as many reasonable letters as our space will permit.

#### FOR SAFE DITCHES

Before state and county road making came in vogue in Michigan the roads were all made with sloping sides so that a vehicle could run into the gutter without turning over, but since the trunk roads are all made by the state, the roads are made nearly flat with a ditch each side. The result is that there are very many accidents by being tipped over, which occurs every time an auto or a buggy gets a little too far from the center of the road. On roads made by the township, autos can run into the gutter and not turn over. The water gets away just as well in a gutter with a sloping side next to the road as in a ditch.—B. S. F., Mich.

#### VOTES AGAINST SERIAL STORY

As to printing a serial story in S. F., as Mrs. S. E. H. Okla., suggests, will say that I never enjoyed a serial story in a monthly magazine. It always proved too much of an anxiety for me to leave off at a critical part in the story and then be compelled to wait a whole month, when one's thoughts are all a tingle for what is to follow, but I do enjoy the short stories, and the one in February number of S. F. by Mary Park Wille, was very good. I would enjoy having you print one similar to it each month.

Now for the free seed distributed by our Congress. I am surely opposed to it. About six years ago I planted a packet of their fine lettuce seed and was so thoroughly disgusted with my crop—a tough, bitter weed called butter lettuce, that we could never eat in its youngest stage—that I never had any more use for government seeds. Although we receive our portion occasionally we always junk the whole bunch. Farmers have no time to waste in planting seed they are not sure of, so what we don't save from our crops we buy from some reliable seed house, which to my way of thinking, every farmer should do.—Mrs. S. W. B., O.

#### A WRONG IMPRESSION

We read so many articles these days in favor of taxing government bonds that I feel like saying a word in defense of those who invested all they had (which in some cases was not much), in government bonds with the understanding that the bonds were not to be taxed.

I also know of elderly men and women who realized it would not be many years until they would have to give up active service—who sold their little farms and invested in Government bonds having been assured that they would not have to pay taxes on them, and in their declining years would be relieved of a certain amount of labor which they were not able to do, and the little interest which they would receive would enable them to live economically without having to be dependent on the country. These cases are many in number in our country, and this fact should not be lost sight of when advocating the taxation of government bonds. It seems to me that the income tax covers the situation entirely, and leave it as it is, and instead of increasing the exemption, why not reduce it, and give these poor people a chance to live without being dependent on the country. In our country the taxes at present are as high as the interest on the bonds. Let us limit the amount of bonds one person (if single) or one family can hold, and let the rich and able-bodied fellows pay the taxes.—A. A. S., Kans.

Comment:—The agitation against tax-free bonds does not contemplate taxing bonds of that kind that have been issued, but rather the prohibiting of the issue of tax-free bonds in the future. This would not effect those to whom the writer of the above letter refers.—Editor.

#### DISAGREES ON POULTRY POINTS

In looking over your poultry department I am always interested in the different articles written by subscribers. In the article written by C. S. he says, "Of course every poultry house should have a dropping board. All are agreed on that." But there are several of us who are not agreed. Although I have never used one myself, I have seen some in use. They must be a good breeding place for mites in summer, and it looks like a dirty job to keep them clean the year round. A good, dry cement floor covered with barn chaff and cleaned out twice a month is very good for the average farmer. I find the less fixtures one has near the roosting place the better, with the roosts so you take them all apart and paint with oil. Also, one contributor says he fills the drinking vessels with boiling water. When we want a fresh drink we don't want it hot unless we are sick. It is the same way with a hen. I use a poultry fountain, heated by a lamp which keeps the water just right all day. Just fill it with cold water and in mild weather the lamp is not needed. It does not use much oil and is sanitary.—M. W. R., Ill.

#### A FRIEND OF FREE SEEDS

I have read so many complaints of people about "junk seeds" that I want to give my experience. For thirty years these seeds have been received in my family, by my grandfather, father, and now in my own home for my garden, whenever they could be had, and can truthfully say we do not nearly every year grow. What better can you ask? We never

found any poor seeds and out of our wonderful luck many a basket of vegetables has found its way from our garden to our less fortunate neighbor. Please our garden to our less fortunate neighbor. Please do not think I depend on free seeds alone that we may get something for nothing. My seed list adds up to the dollars each year but none I buy give better returns than those free from our government. So I say "More free seeds, if you please, Mr. Congressman," and better attention and care for those seeds, Mr. and Mrs. Farmer." And, Mr. Editor, please keep S. F. just as it is. That clean little short story is worth three continued ones and is far more interesting to us.—Mrs. W. C. W., N. Y.

Comment:—This is the third friend of free seeds that has made known his or her views.—Editor.

#### BLAMES CHINESE EGGS

I enjoy reading the various letters in "Our Bulletin" and would enjoy seeing some letters on the egg topic. A couple of weeks ago the people around here were solicited for money for the starving Chinese. The same week, in two days, there arrived in New York City 300,000 dozens of eggs from China. That fact, or something else, has forced the egg market so low that only eighteen cents a dozen is being paid in Topeka. As the hens are one of the chief winter money makers for the farmer, I believe action is needed.—O. F. W., Kans.

#### THREE FOR ONE

In answer to your article "Our Purposes and Plans" in your February number, I agree with you, that every subscriber should write you and give you hints on what he likes and what he wants to know thru your paper. I have just finished reading that article on "Our Forests." I think that the government should pass a law like the Germans have, that for every tree cut down a man should plant three small trees, not only on government land, but on privately owned land. I also read the article "A Program for Agriculture" by Sidney Anderson. Now I wish to state that I have talked to several farmers, and also several ranchers around here, and they all agree with me, that it is all wrong and a one-sided affair that the farmers, ranchers, dairymen, cotton growers and other producers should pay the freight on their produce to the buyers' point, whatever it may be. Now, if I go tomorrow to my nearest town, and ask the hardware man or implement man the price of gang plows he will tell me \$110. I ask why it is so much, and he says it is the freight. Then I go to the mill and ask the miller the price of wheat and he will tell me \$1.10 per hundred. Here again I have to get the price of wheat in Omaha or Kansas City with the freight tacked on. Now do you see where the farmers' and other producers' profits go when they have to pay the freight both coming and going? I know that no manufacturer could continue long in business if he had to do that and that he just would not do it.—F. P. H.

#### WOULD TAX BONDS

Why the "Agricultural Bloc" should not endeavor to have all bonds taxed beats my comprehension, and is there any reason why bonds should be exempt? I am an old back, my whole cooking outfit consists of two old stoves, old enough to vote, a self-made table on three legs, a couple of round blocks for chairs, no stock except a black cat, a half dozen old pans with strings to stop the leaks. My personal tax is \$3.53. Can you beat it? This bond exemption is class legislation, pure and simple, passed for the sole benefit of the money class.

We send good men to congress, generally, but once there, it seems to be a disease and they become confused about what is best for them to do, and remain inactive until about election time. And then again, when we have a good man they take him away, give him a better job, more money, and so forth. But we can't keep still and saw wood.—E. D. H., Minn.

#### A WESTERN SHEEPMAN'S VIEWS

Instead of lobbying in Washington on the tariff, my idea is for a few farm papers of wide distribution to devote a section of paper each issue to sheep in general. Get the minds of the cornbelt in a mood now to buy a car of sheep next fall to fatten, encourage buyers to come west next June to October and buy for fall delivery. Many of the sheepmen have a sale at home and can deliver by the pound in lamb and cull ewes. Price this fall was five cents per pound and hard to find a buyer.—D. M. C., Mont.

#### TOO MANY EXTREMISTS

Your idea regarding crop report is a good one, the I doubt whether it will produce intended results, as farmers like a majority of our people are inclined to be extremists and forget any lesson, no matter how hard, all too soon. I am merely speaking of locality I had the opportunity of being in banner year for all crops, showed wheat raising very profitable, hence 1919 had large increased acreage. June and July floods and extreme heat produced 4 to 8 bushels shriveled 47 lb. wheat, while feed crops showed fair and better yield; 1920, a repetition of 1919 as to weather elements and acreage returned 6 to 10 bushels of 50 lb. wheat and feed crops again showed advantage; 1921 had reversed acreage, wheat greatly reduced and all oats and corn. Wheat yielded average of 10 bushels No. 1 and 2 grade, oats light, nevertheless sold less than 15 cents a bushel locally, and while corn yielded well, it sold at 18 cents a bushel.

The same holds to livestock situation. When

cattle are at peak prices, everybody is anxious to stock up, and when slump comes all wanted to get away from it and help the downward course well along, and we all know the results. Now no one will buy a \$5 calf while he paid \$25 four years ago, hence cattle out of country and no one anxious to get them under present conditions. Where three years ago all virgin prairie was pastured and hay made for livestock, now thousands of acres of wild hay land is waiting for prairie fires to destroy it and other property.

The war finance corporation aid is being poorly handled in rural districts as banks appear indifferent towards it and papers that are being rediscounted by them are at the regular ten percent rate, so little encouragement for involved farmers toward easier interest rate. It is assumed that banks in states where ten percent is legal rate are very timid in agitating war finance corporation funds at their allotted brokerage of two percent because it will disturb their regular ten percent basis. We have the land banks represented but in many cases do not help the most needy.

Hope the reappearance of the tender green and soothing sunshine of approaching spring will bring change into prevailing condition and console the now disgruntled masses with better results.—R. H. H., S. Dak.

#### AN OLD FRIEND

S. F. has been a monthly visitor to our home for eighteen years, and we would feel lost without it, altho we are so busy that quite often we don't get to read it all thru. It surely has improved much since eighteen years ago, tho it was a good paper then. It contains good articles covering all phases of farming and being especially interested in fruit, we thank you for those good fruit articles and hope to see many more.—D. R. L., Ill.

Comment:—Since S. F. is only about twenty years old, D. R. L. must have been among the first subscribers. We appreciate our old friends.—Editor.

#### WALT MASON, LOOK OUT!

Successful Farming is by jing, the best farm paper in the ring. Its shape and size and youthful looks are more appealing than some books. I read its contents every day when evening chores are put away, and glean its sound advice on how to feed and milk the dairy cow; or when to cut the winter wheat or raise the home supply of meat. Its covers are so artistic they would adorn the walls, by hick, and every page overflows with sense of how to fill the sock with pence. Its advertisements guaranteed tell us of wares we've learned to need. There is a page for every age from swaddled babe to bearded sage. When mother tires of household rush, the home takes on a sudden hush, for all the kids know what it means when mamma reads 'bout cooking beans, or how to cut the pattern true for frisky little, saucy Sue.

Successful Farming is my guide, I always keep it by my side, and when perplexing questions rise I write the editorial guys. You bet they answer on the tick and tell the stuff that does the trick. Successful Farming, understand, works with me always, hand in hand.—F. E. S., Wis.

#### FOR BUSINESS AS USUAL

As to the reduction of the corn acreage, I think it the height of folly. I think the cause of our present oversupply of corn, to a large extent, is due to the last three big crops of corn coupled with the ease to get funds to hold crops in '17-'18-'19 which shortened the supply while we really had a surplus. Then when the Federal Reserve made its call, there was a scramble to market with two crops on hand and a good prospect in sight. Of course, we were all under the crash. Acreage reduction will not help us now. I think the best way is to first maintain the soil, if it is in good tilth, with good hogs, cattle and sheep by raising them one's self. I don't think the good cornbelt farmer will be bothered with too much corn. It is much more apt to be not enough. So, let us go on with business as usual, but a little more care on the "Do it yourself" plan.—E. L. W., Ia.

#### NOT TOO MANY STORIES

The last two years' experience none of us will be at all likely to forget, should we live to be a hundred, and any advice S. F. may be able to give about making farming more profitable by increasing yields, and cutting the costs of production, will be most gratefully received by all its loyal readers. You are already doing a wonderful work, and your readers surely appreciate it. You have wonderfully few little stories, but hope you will not extend the stories to any extent, as we nearly all take magazines for stories, and want our farm papers to tell us how to farm for profit that we be able to buy the magazines—and other things.—Mrs. L. E. W., S. Dak.

#### FOR CONTINUED STORY

I agree with Mrs. S. E. H. of Okla., about having a continued story in your columns. It would not have to be a long story, but one full of pep and also expressing some good thought or moral. Here's hoping S. F. prospers and becomes a weekly, if not a daily.—F. S. M., Ohio.

I appreciate my agricultural papers as necessary farm equipment. A farmer without farm papers is very like a milk cow without teats.—J. R. Wis.

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# "DUSTY"—KNIGHT ERRANT

*Nobility Garbs Itself Sometimes in Strange Garments*

By RUSSELL E. SMITH

HE shuffled along the highroad easily until he came into the outskirts of the town, then he became warier in his air. Hitherto he had been carefree as the wind that helped stir the dust beneath his ragged shoes into clouds that covered him as he walked. He knew towns, and *entrees* into them in many states had taught him to beware of various things, that it seemed were made just to annoy gentlemen of his ilk: dogs, irate women of houses that he approached in search of food, and small boys, who in the unconscious cruelty of childhood, threw stones which hurt his feelings more than his hide.

The latter disturbed him more than the others, for there was something about the tramp that caused many an otherwise good watchdog, bent on the annihilation of an age-old enemy, to forget his duty and to sniff gleefully at the man, to caper about his legs, that a moment before he had been ready, nay anxious, to sample culinarily.

But it hurt him to have the children plague him and to cast aspersions and rocks his way; he loved children and liked to gather the small boys about him, if they would come, and tell them weird tales of "the road," until their mothers called them to safety and from proximity to that "dirty old tramp."

Then he'd wander along the streets and roads and after slaking his thirst and getting all that he could to eat at some hospitable back door, go on his way along the dusty pike to the next stopping place, or else, come evening, find a snug stack or open shed and curl up and sleep, to dream of—who shall say of what a tramp dreams?

This was a real tramp, too; not the kind who rides the freights but a real old-time knight of the highway, with a sense of humor and a soul beneath the ragged covering, unseen by those who judge only by the shell.

The tramp shuffled on down the road until he came to an old garden bright with early spring flowers. One bloom far outshone those of nature—her name was Marigold Martin. She was the prettiest girl in the little town, so 'twas said, and had the tramp known this, he would scarce have dubbed the gossip wrong, for Marigold did not belie her name in any respect. His wrinkled-at-the-corners eyes squinted smilingly as he looked upon innocence while shambling past; the boys had almost ceased their outcries of "raggedy man! raggedy man!" and were contenting themselves with standing still and pointing after him as he retreated.

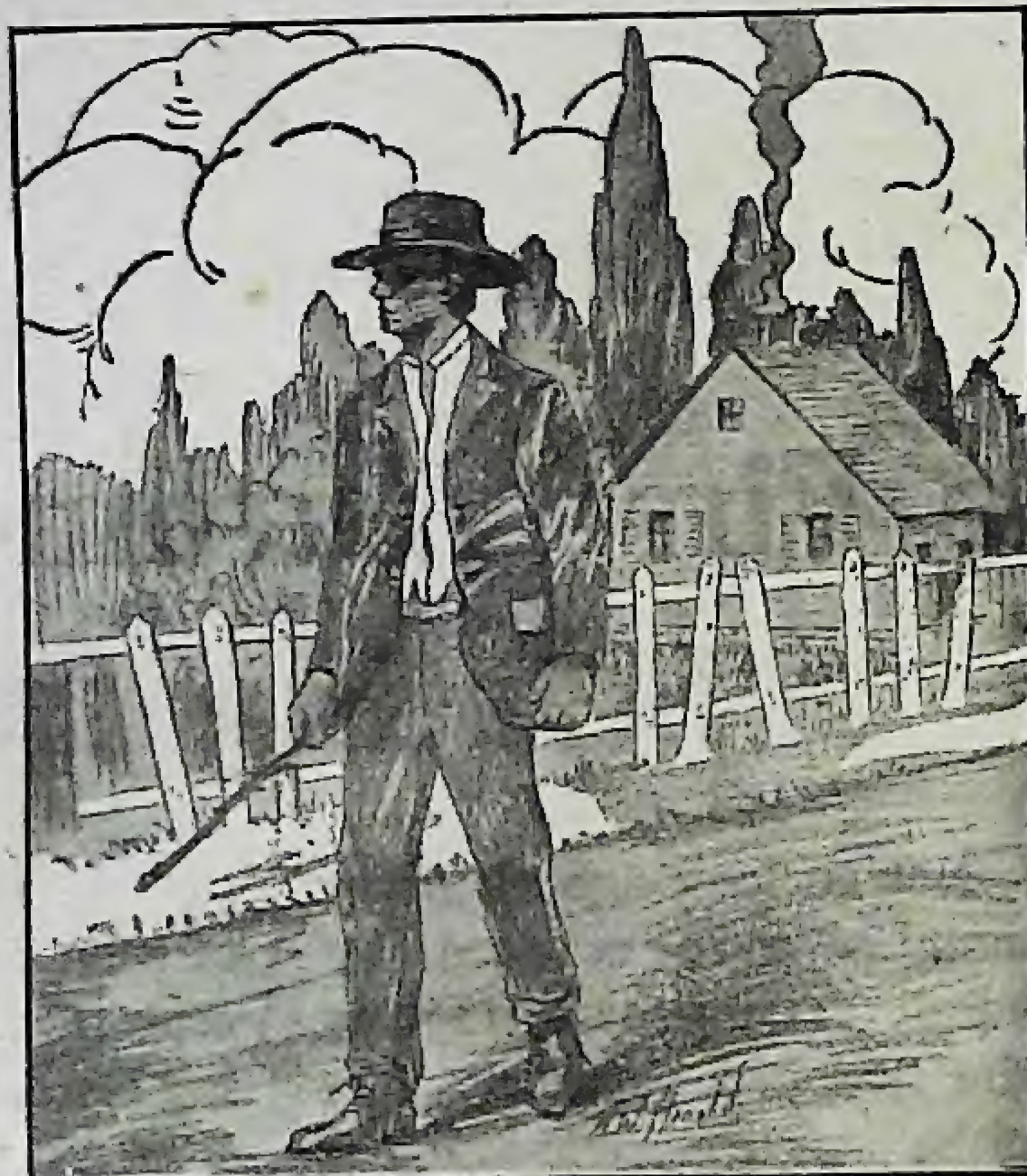
He passed close to the fence and was in hearing of the rosebud maid and one who was apparently her mother, an accidulated person whose pet aversion was "tramps."

There was a look of anger in the eyes of Marigold when she saw the boys behind the traveler and mingled with it was pity for the wanderer.

"What a shame!" she flashed. "Those boys ought to be whipped good and hard for plaguing that poor man." "Marigold, come here and finish helpin' me with these flowers for the parlor. Bothering about an old tramp that way! Come here—he's only a tramp!"

Well, she was right. He was only a tramp; but he was content to be just that. The age-old antagonism against gentry of the road was nothing new to him; it didn't bother him much, except when children pestered him; he always forgave them, tho it hurt, for they were but aping their elders.

But at the look of pity and grave concern from this angel of the flower garden the tramp capitulated entirely and was her slave. He had a warm feeling about the heart as he looked once more at her, gracefully stooping to help her still muttering, querulous parent; then he went down the street toward the business section where he hoped to find a hotel or eatinghouse with a back door which he could "batter" for some bread and meat in exchange for some "wood chopping." The traveler had often speculated during his years of wandering, why none but this chore was ever offered by those approached on a proposition of bed and board to be paid for by labor. Well, it was too much to occupy one's mind with then; the empty belly craved, so the tramp went along about his immediate business.



The tramp went on thru the dust and was soon out of sight around a bend in the road, en route to—who knows?

His name? Well, tramps must have names it is to be presumed, and he had one, but had long since ceased to need it. He never wrote nor received letters and he had not, for longer than he cared to think about, signed any checks, either bank or restaurant; receipts were strangers to him. So whenever forced to give a name to himself by the unfeeling police, who occasionally forced him to accept the shelter of town bastilles for a night or so, he had grasped at Smith or Jones as it might occur to him and let it go at that.

His real name doesn't matter. We'll call him "Dusty," just to avoid calling him "the tramp" all the time.

"Dusty" had lived a quiet, uneventful life, moving slowly along highways from one state to another, following the birds, geographically, if not in speed, from season to season, and he had seen much, not so much, however, that could make him entirely forget what he wanted to forget! There had been a girl, of course, and—

When he got that far in his mind's retrospectiveness, he ceased thinking. But the glimpse of the girl in the garden set him at it again, and it hurt. She was just such a girl once—before—!

"Dusty" slumped along the street until he came to a little alley that ran between a bank and a hotel. At the rear of the latter he knew would be the kitchen, where he might be able to do business with the ruler of those quarters, especially if he happened to be a negro. He hoped there would not be a woman; they always wanted too much work done for them and managed to get two dollars worth of labor for "two bits" worth of food!

Men were more reasonable in the general run and were prone to just give and then chase one up the street. But today "Dusty" felt strangely weary and not up to being chased up the street. For the first time in his life—the latter part of it, that is, since he became a road wanderer—he wanted to stay a while.

He wanted to rest in a bed and sleep easily and sort of "stick around." He could not have told what made him feel that way, unless it had been the sight of the girl among the flowers. He felt as tho she might need him somehow, and

that he'd best not go away. Funny idea! As if that lovely, fairylike girl could have need of such as he! It was silly and he smiled at his presumption.

"Well, if you don't like to do things the way I want 'em, pack up your apron and your funny little white hat and get out, quick!"

"Dusty" was about to depart, for the time seemed unpropitious for presentation of his wants but he didn't get a chance to leave, for the boss of the hotel, whose voice it was "bawling out" the cook, smote upon his ears.

"Say, bo, want a job? I don't suppose you do, but I thot I'd ask. You look as if you were about to come in and ask for something and I got nothing but jobs today! My cook's been fired just now and my dishwasher is sick and my porter is laid up in the hospital; trunk fell on him. Want the jobs?"

"Oh, I don't mean the cook's," the man went on as he came out onto the back porch, "I mean the dishwasher and porter. The two jobs will pay thirty a month and board and room, and you look husky enough to stand the work. What do you say?"

"Dusty" said "yes" without thinking very long. It would be kind of nice to have a job and be something besides just a tramp again! He would take the job and show them and himself that he was something better than a knight of the highways. Too bad he hadn't—too bad that she couldn't see him—well, he would take it!

From early morning until late at night he toiled at varied hostelry occupations. He mopped the floors of kitchen and lobby, separated the lowly potato from its skin and grease from the pots, "bathed" dishes and swept halls, carried trunks up stairs and down again and chopped wood—all for what? He could not tell.

He was utterly at a loss to understand how this long habituated sloth had so suddenly sloughed itself (Continued on page 78)



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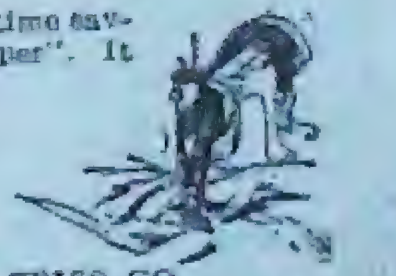
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THE JOSEPH & FEISS CO.  
2168 West 53rd St., Cleveland, Ohio



**"DUSTY"—KNIGHT ERRANT**

Continued from page 76

itself from him; he to whom work was as abhorrent as holy water is popularly supposed to be to the red-cloaked one from below.

But nevertheless there he was, a full-fledged working man. The hotel man and his other employees marveled too.

"Get onto the 'millionaire' working!" they would jest. "Millionaire," to those who do not know, is the hotel men's cognomen for tramps.

"Dusty" often wondered at himself, but each time the self-wonderment was mixed with a mental glimpse of the lovely girl of the roadside cottage who had smiled her pity as he passed. Maybe it was her great resemblance to someone in a dim forgotten past, that held him to this unwanted toil.

Many times in the weeks that followed he was constrained to slip quietly from his bed, the first with sheets that had sheltered him in many years, and scuff his dusty way into oblivion, but something, some feeling of possible future need, always deterred him. It was a foolish idea, he thought; as if that lovely girl could ever have need of him; it was absurd; but he stayed on just the same, and so the weeks passed.

One evening, as he went thru the yard toward the back street on an errand, he heard voices along the side of the fence that barred the rear of the hotel yard from the next street. The voice of one, a girl, was unmistakable. "Dusty" would have known it among a million others. She was speaking low and tenderly and there appeared to be a tone of entreaty in her voice as she addressed her companion. The listener shrank into the shadows as they passed but they halted near by and he was forced to remain a moment as they talked in low tones.

Yes, it was she; her companion was a familiar figure to the tramp as well as a detestable one. He was a "smart-aleck" type of "drummer," well dressed, too much so, and with a nasty look in his eye when he turned his gaze on women and girls as they passed the hotel veranda.

Where on earth could such a girl have met him, thought the eavesdropper.

He could not help but hear and he burned with rage as he heard the oily tones of the man assuring the girl.

"Of course, I love you, little sweetheart, and we'll be married real soon, but you mustn't tell your folks just yet because they don't know me, you see, and they might not like your marrying a 'drummer.' Wait till it's all over and then they'll be more used to the idea."

They strolled on arm in arm along that dark side street while "Dusty" followed a little way behind.

To think of that sweet girl having anything to do with that rat! It was astounding. He knew how easily a smart-looking chap like he could put it over on an innocent girl like she, and he was for going at once and acquainting her mother with the situation. But what was the use? The man was a god in the girl's eyes, no doubt, and after all, if she wanted to marry him, it was her business, and he had better keep out of it. She'd never thank him for it, anyway, so what was the use?

The following day, however, he was forced to change his mind about the affair. He had been mopping the lobby; it was late afternoon and the lobby was almost deserted except for the man he had seen with the girl, and a crony of his, with whom he had often frequented the adjoining bar and from which adjunct to the hotel they had just returned. The younger man was rather communicative after his afternoon's liquid sport and was inclined to air his feelings rather freely.

As "Dusty" drew near he was just showing his companion a leather case with photographs within, of a woman and a child.



**"Don't worry!  
Sloan's will fix me up"**

He—"Forgot my umbrella this morning and I'm soaked through. I'm glad I bought that bottle of Sloan's Liniment last week. Where is it?"

She—"It's right where I can lay my hands on it. I am afraid this exposure will start up your old rheumatism again."

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Sloan's Liniment has been "Pain's Enemy" for over forty years. You will find it always reliable in cases of rheumatism, neuralgia, sciatica, lame back, sore muscles and the pains and aches resulting from exposure.

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"That's the missus," he was saying; "pretty nice, eh?"

The other man said something that the tramp could not hear whereupon the other said, "Oh, well, you know how it is, all alone on the road; we have to kid the gals along a little bit, what?"

"Dusty" almost dropped his mop handle in excess of rage and disgust. So this was the man that the little girl of the cottage had put her faith in? This rat, who was married, was telling her only the night before that he intended marrying her! How far had he gone? He must find out if possible. He hung about the two until he heard the young chap tell his friend that he must be going.

"Got to doll up a bit before supper," he said with a smirk. "Got a date out at the park with a little queen I been seeing here; so long," and with a wink he was gone, whistling, up the stairs.

"Dusty" made up his mind that he would be a witness to that rendezvous in the park, unseen and unheard. He must find out the plans of this precious scoundrel.

Tell the girl? He thought of that, but it would not do; she would not believe, they never did, but would only cling closer to the man. Her mother? That wouldn't do either, because while she might forbid her child seeing the man, she would get out somehow and maybe run off with him, which would be worse. Besides, he dreaded smirching the girl. No, some other plan must be devised. The tramp suddenly felt himself a knight, laden with the duty of saving the girl, from herself, and he set out to do so.

At eight that night he was off for the park, having invented a suitable and passable excuse to satisfy the hotel man for his absence, and soon after the man and girl arrived. They settled themselves on a bench screened by a clump of low bushes behind which "Dusty" waited to play his part of guardian angel. The girl certainly needed one.

The drummer told her that they must be married at once, at the next town; he was obliged to leave the following night and she must be ready to go with him. He would not allow her to tell her folks until after they were married and safely there, for fear that the marriage would be stopped and so on. The girl, after weakly objecting, finally consented.

"You be at the trolley station out here by the park at nine sharp," the man said, "and I'll meet you there. We mustn't be seen together in town. You needn't bother with clothes if you can't get them out of the house without being seen; I'll buy you all you will want in the city."

There was further talk which the tramp did not wait to hear. He hastened back to his work, pondering over this problem. He must save the girl somehow, but how, without hurting her, or letting her folks know the truth?

The next day he performed his tasks mechanically; he took no interest in them and received several calling downs for his slovenly work; he was beginning to slip back to his old ways again, he found, and he wondered why?

Was it because his task in that town was almost finished? Had fate only stopped him there to serve the girl and then would send him on his way again, to tramp endless roads and scatter dust another long lifetime? He wondered!

That night he went upstairs and slipped into the boss's room, where he found something in a bureau drawer which he slipped into his side pocket; then he went to his own room on the top floor and got out of his working clothes and into his old ones, those which he had worn on his entree to the town. He had kept them all this time; now he knew what for. It was the proper raiment—his armor of knight-hood.

The drummer, grip in hand, had gone but a little distance on his way to the

Continued on page 84

**I**T seems only logical that the revolver termed "superior" by experts generally, is the revolver you ought to own.

## SMITH & WESSON

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## HOME DEPARTMENT

## Mother-Love

By WALTER S. CHANSLER



**A**TENEMENT-HOUSE in the factory district of a large city was in flames. The fire-trucks arrived; firemen toiled and sweated; but the fire burned higher and higher until its angry, leaping flames completely enveloped the rickety building.

A wild shriek arose above the roar of the angry flames; and a poorly dressed, middle-aged woman, with white, set face and hair flying wildly about her drooping shoulders, came dashing thru the crowd of onlookers and up to the very door of the burning building.

"My child! My baby!" she screamed. "He's in there." Oh, will somebody save my child!

A fireman laid a grime-streaked hand on the woman's shoulder in a kindly way and tried to tell the distracted woman how futile it would be for anybody to attempt to enter the burning building to make a search for the child.

Gently removing the fireman's hand from her shoulder, the woman, with never a look to the right nor to the left, dashed thru the open doorway into the burning building.

With its roar and crackle, its scorching heat and its angry, leaping flames, the fire burned steadily on. The old, rickety building was now a mass of seething flame; the roof sagged and threatened to fall in at any minute; the walls were crumbling; and every now and then a part of the floors crashed thru the wreckage, sending skyward a cloud of sparks and ashes.

And the woman was seen no more!

Such is a mother's love for her child.

And here is the point of the story: If you, son or daughter, are so fortunate as to possess and hold the love of a mother, for your own sake cherish it as the most priceless thing in your life; for in all the world there is nothing quite so great, so sacrificing, so precious as a mother's love.

## HANDICAPPING THE CHILD WITH FEARS

"Parents are largely to blame for the needless fears which plague child life," said my doctor friend. And he was right.

When a child three or four years old shows fear in a storm or at the approach of a strange dog, it is not because it has reasoned the matter out, nor is it instinctive. It is because it has learned from its parents or caretakers that something is happening that it should fear.

We are told that during a thunderstorm the nurse of Sir Walter Scott, the Scottish writer, hurried out to find the sick lad. He was seated on his blanket on a knoll from which he could view the electric phenomenon. At every flash of lightning he clapped his hands and shouted "Bonnie, bonnie."

Contrast this attitude with that of many American families. At the first sign of the storm, the mother huddles her little family in the dark room and they tremble and cry until the sun shines again. It will require the exercise of much will power to break the child of the fear of lightning in later years.

There is some excuse for the fear but not very much. Lightning kills about five hundred people in the United States every year. This is about five people for every million of inhabitants. When you compare this with the thousands who are killed in automobile accidents each year, one can see that it is more reasonable to tremble when the family takes its automobile ride, than when the lightning begins to flash.

Another unfortunate fear and one that

there is even less grounds for is the fear of funerals and cemeteries. The writer is acquainted with a man who confesses that even now he hesitates about taking a certain road at night because it leads by the cemetery. A neighbor grows frantic when the loaded hearse stops in front of the house because she believes that it is an ill omen. These things are so plainly superstition that to show a belief in them before one's children is a distinct mental handicap.

Another fear that is carelessly imparted is that of dogs or mysterious goblins which will punish the disobedient. These fears may be administered merely as a part of discipline and yet work countless pain before it is thru. Some more sane method ought to accomplish the same results without making the child a slave to mental fears. "I remember," tells one grown woman, "that when my mother sent me with the other children to pick berries, that I worked in terror all of the time, thru fear of the bears which fill the woods. The other children soon learned it. At times it seemed easier to die than to go after berries."

Parents who have themselves suffered because of these fears will readily see the point and avoid committing the offense with their own children. They are a real handicap. They give an unfair advantage to the other child who believes that the world is a friendly one, and then when older learns to reason out the whole matter.—W. H. L.

One must not only speak charitably, but must also feel charitably.



Drawn from actual photograph of Daryl Wilson, son of Mrs. Margaret Wilson, 1110-8th St., Milwaukee, Wis.

## Are you as justly proud as this boy's mother?

**DARYL WILSON** is the kind of a baby every mother wants her child to be. He is strong, sturdy, handsome. He has been voted the best baby in two baby shows in Milwaukee, Wis., where he lives.

Mrs. Wilson attributes his fine health to Eagle Brand, on which he was raised. Mrs. Wilson was an Eagle Brand baby too, so of course she brought up her little son on it. This is one of the thousands of cases where Eagle Brand has been the accepted baby food for several generations in the same family. In some cases grandmother, mother, and child were all reared on it. For Eagle Brand has been the standard for sixty-four years.

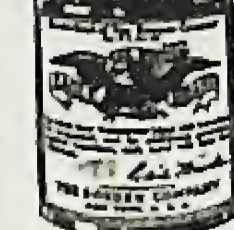
No thoughtful mother would experiment with her baby. Mother's milk is best, of course, but if it fails for any reason, Eagle Brand is the natural substitute. Eagle Brand is not a "prepared" food at all. It is nothing but pure milk and pure sugar combined. Mothers all over the country have written us of the wonderful results they have had in feeding it to their babies. And doctors recommend it in stubborn feeding cases—it is so very digestible.

Eagle Brand Milk is entirely safe, pure, and uniform. Each can is like the last, so that there is not the slightest variation in baby's food—a most important consideration according to modern specialists. And you can buy Eagle Brand anywhere. Get it in quantity so that you always have a supply. Even in hot weather, the unopened cans keep indefinitely.

Are you keeping a record of your baby's characteristics, sayings, etc.? You will treasure it in later years. Write for our beautiful little record book "The Best Baby". It will be sent you FREE, together with an Eagle Brand Feeding Chart.

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## GREENS FOR THE SPRING DINNER

There is always a longing for a taste of the first green things in the spring. It is nature's call for help in trying to throw off the sluggishness and tired feeling brought about by winter inactivities, and is much better for this than the dosing of the system with pills and spring tonics. Thus especially in the early spring should we eat plentifully of fresh vegetables in the way of greens, both tame and wild, cooked and uncooked.

To most housewives "greens" mean mustard, kale, spinach, beet tops and other tame greens from the garden, but in addition to these there are many wild plants, classed as weeds, which when gathered, properly cooked and well seasoned, are not only very palatable but are also rich in iron, mineral salts and other properties which make them rank high as a spring tonic and one much to be preferred to the same properties bought in different form from the drug stores.

Those wild plants used most generally for greens are dandelions, poke weed, wild mustard, lambs' quarter, and members of the dock family. Most of these are rich in iron, and other medicinal properties which are easily assimilated when taken in the form of fresh, palatable greens. All of these are best when cooked as a mixture; the addition of equal parts of some of the tame greens will improve the flavor. Gather only the young, tender leaves, wash well, drain and put to cook in boiling water, using only as much water as is needed in order that the valuable juices be retained. Boil until tender, drain, chop fine and add any seasoning desired. Most people like a meat flavor for all boiled greens, while others prefer butter or a cream dressing.

Scrambled poke greens are a favorite with many housewives in the Central West. Gather the tender shoot, wash and boil in salted water until tender, drain well and chop fine; put in a skillet with a generous amount of meat drippings and when moisture has cooked out break in half a dozen eggs, stir well until eggs are done and serve. Spinach, beet tops or swiss chard may be cooked in the same way, also tender green onion tops.

Spinach, mustard, beet tops and swiss chard are the most popular tame greens, altho there are a number of others which find favor with many housewives during the spring months. Most of these are best when used in mixtures. Spinach, however, is largely used alone and is the favorite spring green in many households. All greens should be used when young, and tender, gathered, washed thru several waters, drained and cooked in boiling, salted water until tender; drained and seasoned to taste with meat drippings, melted butter or a cream dressing. Serve lemon juice or vinegar with all greens.

In sections where the watercress grows one may have an excellent salad and one very rich in medicinal properties, at any time during the winter, or spring. Gather the young, tender sprigs, wash, cut up with a few tender onion tops and season with meat drippings, or a mayonnaise dressing.—Mrs. L. Y.



## APRIL

When anyone mentions April,  
What is it you think of first?  
The patter of falling raindrops  
That come in a sudden burst?  
Or do you think of the sunshine  
That drives the shower away?  
Or of the wonderful rainbow  
With its arch of colors gay?  
—Elsa Gorham Baker.

A War on Film  
On the film that ruins teeth

Dental science has declared a war on film. Millions of people, half the world over, have joined it. And leading dentists everywhere are securing new recruits.

This ten-day test will show you the results. Make it and note the change that comes in cleaner, prettier teeth.

## Makes teeth dingy

Film is that viscous coat you feel. It clings to teeth, gets between the teeth and stays. It makes white teeth look dingy. And most tooth troubles are now traced to that film.

Film is what discolors, not the teeth. Film is the basis of tartar. It holds food substance which ferments and forms acid. It holds the acid in contact with the teeth to cause decay.

Germes breed by millions in it.

They, with tartar, are the chief cause of pyorrhea. Many serious troubles are now traced to them.

## Failed to end it.

Old teeth cleaning methods have failed to end film. Much was left to night and day threaten serious damage. That's why well-brushed teeth discolored and decayed.

Dental science has for years sought ways to fight that film. Two effective methods have been found, and able authorities have well proved their efficiency.

Now those methods are combined in a dentifrice called Pepsodent—a tooth paste based on modern dental knowledge. And to millions of people it has brought a new era in teeth cleaning.

## These five effects twice daily

Pepsodent combats the film in two effective ways. It leaves teeth highly polished, so film less easily adheres.

It also multiplies the salivary flow. That is Nature's great tooth-protecting agent. It multiplies the starch digestant in the saliva. That is there to digest starch deposits that cling. It multiplies the alkalinity of the saliva. That is Nature's neutralizer of acids which cause decay.

Every application brings these five desired effects. All of them are

deemed essential. But old methods never brought them.

Send the coupon for a 10-day Tube. Note how clean the teeth feel after using. Mark the absence of the viscous film. See how teeth whiten as the film-coats disappear.

In a week the results will surprise and delight you. And your home, we believe, will adopt this new method. Don't wait longer. Cut out the coupon now.

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## 10-Day Tube Free 832

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Send 5c For Postage  
This cap has been designed for the purpose of shading the eyes from the glare of the automobile head lights and the sun's rays. It has a green transparent celluloid steepled visor that is non-breakable and will not soil. It is made of Khaki Color waterproof cloth with a good serviceable lining. Every motor owner should own one. We send it on approval. Order any size for men or boys by number S. P. 15. For women S. P. 20. PRICE \$1.00. Manufactured and sold exclusively by this

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Our advertisements are all dependable.

## TO RENOVATE A MATTRESS

I had a mattress which had become so "billowy" from use that as a slumber-producer it had to be passed up. I was a long way from a bedding concern and, taking into consideration transportation charges, it simply wouldn't pay to ship to the professionals. I resolved, provided I could find a needle long enough, to try my own hand at renovating.

I had a long search for that needle. When I had about given up the quest I found in a hardware store a harness-maker's needle about six inches long, with a big eye and a two-edged, sword-like business end which the accommodating clerk sharpened for me to a cutting keenness.

Equipped with this tool and some stout twine, I tackled the big job. First, I cut the tacking cords all over the mattress, taking care to preserve the little leather stays in the tacks. Next, I ripped the seams in the top of the bed, removed the felt top of the mattress and gave the excelsior a thoro readjustment; pulling apart, shaking up and redistributing until I had a level surface. Then I carefully restored the felt, placing pieces of an old blanket on the worn and broken places.

After re-sewing the tick, I was ready for the tacking, which was really the most difficult part of the undertaking. Threading the needle with a long and stout cord, I drove it down thru the mattress and back up, inserting a leather stay under the cord, on the under side of the mattress, as I drew it tight, and another stay on top, under the knot as I tied it. I had to take care that the needle was threaded with a cord sufficiently long that the end might not be drawn into the bed out of sight while I was working the needle back up thru the mattress.

Tying the tacks tightly enough to hold the leathers firmly in place and yet not make too deep "dimples" for comfort, I had when finished a nice, even surface—a mattress as comfortable as a new one. It has been used now six months and is but little worse for the wear.

A bed topped with felt on both sides would be a little harder to renovate in case both facings needed mending, but it could be done by mending the top layer, sewing up the tick, turning the mattress carefully and ripping the under side of the tick before disturbing the excelsior. Only a very sharp needle will penetrate the felt facings.—J. E. T.

## SPRING TREATMENT OF BEDDING

Before storing winter bedding away for the summer months, it should be given a thoro cleaning. Attention to this detail is especially important if the family has suffered thru the winter with colds, pneumonia or influenza. Otherwise, unwashed bedding and soiled or dusty mattresses and pillows may harbor the germs which will cause future trouble of the same kind. Wash bedding materials always after an illness, before they are used by another person, and under normal conditions establish a routine practice of a yearly cleaning at least.

A thoro washing with soap and hot water is the most satisfactory method of cleaning bedding that can be put thru the process. In the future plan to have as few bedclothes which cannot be cleaned easily and successfully, as possible. Sunlight is another effective germ killer, and a weekly airing on a bright sunny day for mattresses, pillows and unwashable covers, will do much toward keeping them fresh and sanitary. A thoro brushing of pillows and mattresses should be given in addition to the sunning, care being exercised to remove all accumulation of dust and lint from under the tuftings and buttons.

In cases of severe illness, some of the following methods of disinfection should be followed: Boil all bed linen twenty minutes immediately after removing from

## Don't Send 1 Penny



**Ladies' Oxfords and Silk Hose \$2.98**  
These oxfords are made of strong leather which will give excellent wear. Perforated medallion on toe. Heavy leather sole and rubber heel. Very stylish. COLORS: Dark brown or Black. Sizes: 2 1/2 to 8. Widths: D, E and EE.  
The hose are woven of fine silk with reinforced heel spliced heel, sole and toe. Upper part of cotton. 17 inches of silk. Mock seam back. Same colors. One pair of hose with each pair of oxfords.

**DELIVERY FREE**—Just send your name and address—no money—when the oxfords and hose arrive pay the postman \$2.98 for them. We have paid the delivery charges. If you don't find them all that you expected, send them back and we will cheerfully refund your money at once. Could anything be fairer? Order by No. 12.  
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**RENFREW DEVONSHIRE CLOTH**  
**SUN PROOF AND TUB PROOF**  
A strong, firm, fabric for **KIDS WASH CLOTHES**  
32 inches wide  
**New goods free if colors run or fade**

Looks always fresh and crisp, wears well and saves mother's time and money.  
The genuine has "RENFREW DEVONSHIRE CLOTH" stamped on the selvage.  
Ask your dealer to show you our Spring 1922 color card, or write us.  
**RENFREW MFG. CO.**  
ADAMS, MASS.

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**AGENTS**—350% Profit, Quick, Easy Seller, Kleanrite, a new washing compound. Washes clothes with rubbing. Women will love it. Write quick for FREE FACTS and Special Offer.  
**BESTYER PRODUCTS CO. 1911-AD Irving Park, CHICAGO**

the patient's room, or let it stand in a formaldehyde solution ten minutes and then wash. The formaldehyde solution is made by mixing one part of formaldehyde, as purchased at the drug store, with ten parts of water. Badly soiled mattresses should be sent to a steam sterilizer or burned. Bedding used in highly contagious diseases may be given the disinfection required by health officers, with the other contents of the sick room.—V. H. D.

## THE CEDAR CHEST AND THE MOTH

A woolly tale I have to tell:  
The moth succumb;  
A chest of cedar tells his knell.

Storing garments in cedar chests has long been proclaimed an effective method of protecting them from damage by clothes moths. The United States department of agriculture has tested the statement and finds there is good ground for the claim, providing the clothing is thoroly brushed, beaten, and sunned before being placed in the chest, and that the chest is tight and in good condition.

It is the odor of the red cedar which is effective, consequently care should be exercised to prevent the escape of that odor by keeping the chest tightly closed, except when storing and removing garments, and by accomplishing these operations quickly.

The cedar odor does not kill the grown miller, nor the eggs, pupae, or half grown worms, but it does kill the young worm, it has been found. It is during the worm or larva stage that the miller is harmful.

Since only the young worms are effected, it is of great importance that the pre-storage cleaning be thoro, so that all older, resistant worms be destroyed, and as many of the eggs and young worms as possible.



## POINT LACE EDGING

This dainty edge may be used in many ways. No. 40 crochet thread is used with a steel hook of a size to carry the thread easily. It is quickly and easily made.

Ch 30, turn.

**First row**—Form a shell in eighth stitch from hook, ch 5, skip 4, sc 3, ch 5, skip 4 form shell, 1 sp, ch 6, sl st 4 in last st of foundation chain, turn.

**Second row**—Ch 3, dc 7, over 6 ch, dc 1 over last dc in previous row. 1 sp, 1 shell, ch 3, sc 1, over 5 ch, ch 6, sc 1 over next 5 ch, ch 3, shell in shell, 1 sp, ch 5, turn.

**Third row**—1 sp, shell in shell, ch 1, 9 dc over 6 ch, ch 1, shell in shell, 1 sp, ch 6, skip 4, dc 1, ch 6, dc 1 in 3 ch at beginning of previous row, ch 3, turn.

**Fourth row**—7 dc over 6 ch, 1 sc over next ch, 7 dc over same 6 ch, 1 dc over dc, 1 sp, shell in shell, ch 3, 5 dc in center of 9 dc in previous row, ch 3, shell in shell, 1 sp, ch 5, turn.

**Fifth row**—1 sp, shell in shell, ch 5, 3 sc, ch 5, shell in shell, 1 sp, ch 6, dc 1, ch 6, dc 1 at lower point of previous row, ch 1, turn.

**Sixth row**—\* sc over 6 ch, 1 picot, sc 2, 1 picot, sc 2, 1 picot, sc 2 over same 6 ch. Repeat from \* over each 6 ch in point, ch 1, 1 dc over dc, 1 sp, shell in shell.

This completes the first point. Continue design to length desired. Made of No. 70 or 80 linen thread, this design is very pretty for undergarments.—G. S.



**Used Every Day for Months - Still Gives a Perfect Blue Flame**

It is not unusual for a Nesco Rockweave Wick to give months of unvarying service. Housewives have learned to expect this dependable service from it whether it is new or months old. With the Nesco Perfect Burner, this durable wick produces a perfect blue flame close under the utensil. It gives an odorless, smokeless heat best suited for all cooking. It is ready to be lighted at a moment's notice without pre-heating or generating.

The Nesco Perfect Oil Cook Stove has gained favor with the housewife because of its beauty, convenience and low operating cost. As a summertime cook stove it has been particularly appreciated. You will want to own a Nesco Perfect Oil Cook Stove and it is priced so that anyone can afford it.

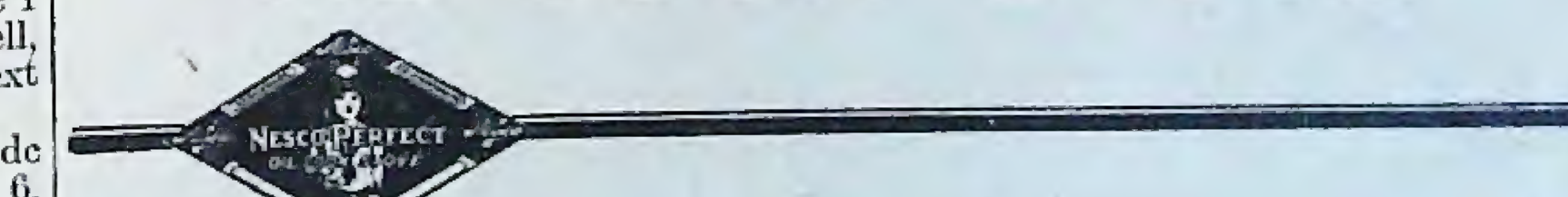
See this stove at progressive hardware, house furnishing or department stores. There you will find the Nesco Royal Granite Enameled Ware which has been used by housewives for over forty years. Also, the Nesco Perfect Oil Heater and the Nesco Perfect Water Heater.

Send for free booklet, "Thirty Picked Recipes," by Mrs. Simon Kander, author of The Settlement Cook Book. Address: National Enameling & Stamping Co., Inc., Advertising Department, Sec. K., Milwaukee, Wis.

**NATIONAL ENAMELING & STAMPING CO., Inc.**

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## NESCO PERFECT OIL COOK STOVE



Just as the whiteness of ermine is emphasized by the rich black tips—just as striking beauty is brought out in a pale gown touched off with dark velvet—so the blue-gray of Nesco Royal Granite Enameled Ware enhances the beauty of the white kitchen.

On a white range, on the white porcelain top of the work table; at the marble-white sink; in the white cabinet—beautiful blue-gray mottled Nesco Royal Ware harmonizes handsomely. It breaks the monotony of all-white. It decorates and gives character to the white kitchen.

The housewife is at once impressed with the economy of Nesco Royal Ware when she buys it and notices how reasonably it is priced. Economy of Nesco Royal Ware is also measured by time saved in dishwashing. In a year it amounts to many hours. Only water and mild soap are needed. No need of expensive cleaners, no polishing, no special boiling out to cleanse. Elimination of these irritating and disagreeable methods helps to keep the housewife's hands smooth, white and lovely and her good spirits unruffled.



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Beautifully Embroidered for **Only \$3.98**

**2 Garments IN ONE!**

The loveliest most fashionable model in the season's advanced style. Combines all the latest ideas in ladies' suit dresses. Can be worn as a jumpsuit dress or as a suit. A wonderful bargain at \$3.98 and we don't ask one cent in advance. Send for it, examine it and if dissatisfied return to us, and we will refund your money.

**Big Value**

The illustration does not near express the wonderful value here offered. The style and cut is so charming as to attract instant admiration.

**SWISS Embroidered**

in a dainty pattern as illustrated on excellent grade of linen. Long coat lapels fit snug at neck. New style bell-shaped sleeves. An \$8.00 value for only \$3.98. Order by No. 113.

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wanted in every county to give all or spare time. Positions worth \$750 to \$1,500 yearly. We train the inexperienced. Novelty Cattery Co., 156 W. St., Canton, Ohio.



**A GOWN YOU WILL WANT TO MAKE**

Do farm girls like dainty gowns and things? I know they do. That is why I say you will want to make this pretty, simple summer gown.

Three yards of blue flowered pink lingerie crepe, and a few strands of heavy blue silk embroidery floss. Those are the materials required, besides a little thread and several hours of your time. The entire cost should not run over a dollar and it may be quite a little less than that, if you strike a bargain, as I did, and get three yards of the crepe for the price of two.

Lay the two cut edges of the material together, letting the fold form the shoulder line, then fold lengthwise of the goods so both sides may be cut alike and at the same time.

For the sleeve, measure down eight inches on the selvege from the shoulder fold, cut in about two inches toward the lengthwise fold, then round out and slant off to the selvege edge again. The accompanying picture will show you how.

The neck is formed by cutting down center fold front and back, six and a fourth inches, and four inches on each shoulder fold. This finishes the cutting out of the gown.

To make it, french seam underarms to the selvege, turn on wrong side and finish with a regular seam, put in any desired width of hem, baste back points to form the neck opening, measure three and one-fourth inches down from the front point and run in two gathering threads, one-half inch apart and six inches in from underarm seams.

Now for the little bit of handwork which makes the gown so dainty and pretty. It may be a line of chain stitching on sleeves, neck and gathering threads, with a lazy daisy here and there, as shown, or feather stitching, french knots, couching, or any other of the pretty decorative stitches you know how to make.

One might even applique some simple flowers on the turn back points and at one end of the gathering threads, if the gown is made of a plain colored material.

There is an unlimited number of ways of working out this pattern. The gowns are so comfortable and cool, yet so simple to make, I know you will want to try several of the variations as soon as one has been added to your supply.—V. H. D.

### PLAN YOUR READING

Make a list of the books you hear of and see mentioned that you would like to read. Then as they are obtained and read, check them off. Following such a plan somehow helps one to accomplish more of the reading they wish to do. Several of the state colleges have helpful bulletins on the subject of good home reading, which may be had for the asking. Such bulletins will be found a great help in planning a course of home reading for stormy evenings.

### DUSTY-KNIGHT ERRANT

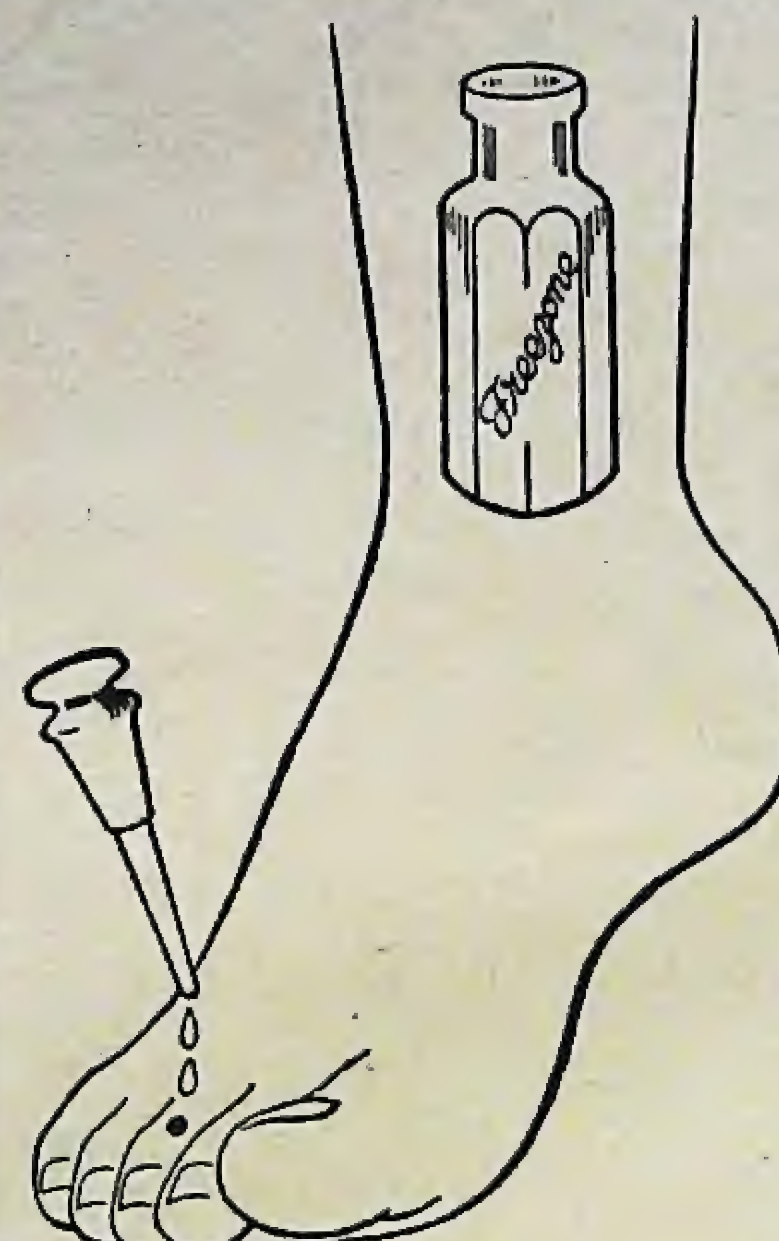
Continued from page 79

trolley station in the park, when he passed a dark spot in the road; a few feet further, he was startled by the feel of something cold pressed against his cheek. He stopped still as a rough voice commanded: "No noise, now, young feller, or you'll get hurt some. Just go right straight ahead until we get near that station up there; we'll chat a little as we ramble."

The drummer's attempted remonstrance was halted by the sudden click of the gun, and the sharp rejoinder, "Want ter go as

# Corns

Lift Off with the Fingers



Doesn't hurt a bit! Drop a little "Freezone" on an aching corn, instantly that corn stops hurting, then shortly you lift it right off with fingers. Your druggist sells a tiny bottle of "Freezone" for a few cents, sufficient to remove every hard corn, soft corn, or corn between toes, and calluses, without pain, soreness.

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You can do it, experience not necessary. Write about Love, Mother, Home, Childhood, Patriotic, Comic or any subject, and send words to me at once. I compose music and guarantee publication.

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you are or in a box? Say which!"

The young man subsided while the voice in the darkness at his side went on: "That's right! Now we'll get along. That little trip you were going to take tonight is off; leastways, your company ain't going. You're married, see, so you don't take no gal from this town when you got. Get me? Now if you're a wise little feller, you'll just take that car I see coming down the track and beat it without any more fuss."

"But," stammered the frightened drummer.

"I know that isn't where you were going," said the voice, "but that's where you will go this trip, just the same. So climb on and don't make a fuss. If this town knew what you were up to or if your wife heard of it—!"

"I'll go," stammered the man as he neared the platform.

"That's right," said "Dusty." "I'll be watching to see that you don't get off, so don't play any tricks. This gun is likely to go off easy like and I'd just as soon plug a snake as not, anyhow."

The car screamed to a stop, the would-be eloper climbed aboard, and it moved on again, carrying a very disgusted and disappointed young man.

The tramp slouched back into the shadows, as he heard the car from the opposite direction. Just before it swept around the bend about a quarter of a mile away, he saw the girl hurry up, and nervously look about her. She waited a long time and finally buried her face in her hands and hastened away down the road toward home. The tramp followed slowly and his feet kicked up the dust with a new delight. It seemed good somehow to feel it settle on his legs again. It was clean, that dust, and he felt better after getting rid of the unclean party whom he had just assisted out of town.

Well, his job was done, and he must go back to the hotel. There he slipped into the boss' room and replaced the revolver he had taken. Then he went to change his clothes in his own room, but stopped. His thots traveled many years back.

"She would have liked me to do that," he whispered to the darkness. He slept in his clothes that night as of old. Then without changing he slipped out of the hotel early and struck out along the street leading to the main road out of town.

It was early but not too early for the townspeople who lived on its outskirts to be up and about.

He took his way past the cottage; he wished to see once more the place where dwelt pity in the eyes of a girl. Smoke rising from the chimney showed that they were at their chores, early as it was.

In the garden a girl knelt and culled the blooms that scattered their fragrance about the yard. She saw the tramp as he passed and smiled sweetly. She looked tired and a little sad. "Dusty" smiled back at her as he shuffled along thru the dust. The girl spoke.

"Would you like a flower?" she said as she came near the fence and held out a blossom for him. He took it as a knight takes a guerdon from his lady.

"Thanks, miss," was all he said, sniffing it almost daintily and thrusting it in his buttonhole, as he turned to go.

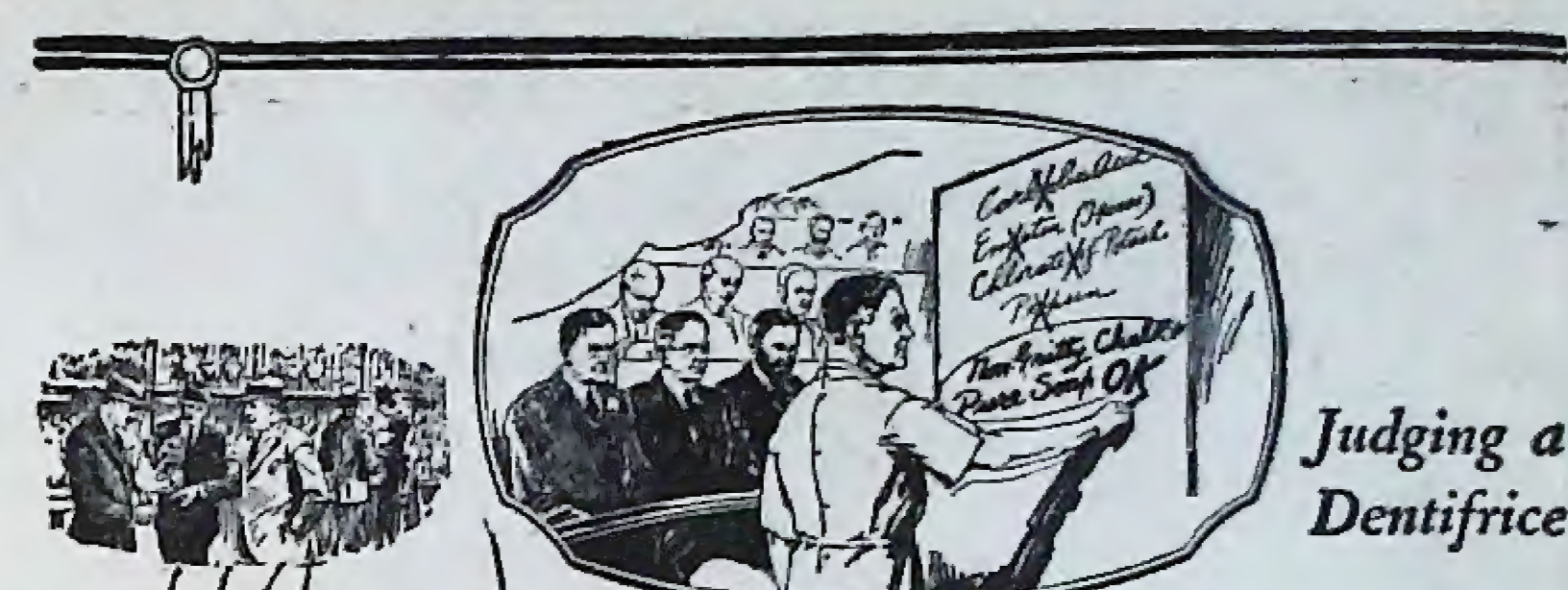
A window was raised suddenly and a voice startled the stillness.

"Come away from that dirty tramp," it shrilled sharply, and the girl smiled apologetically and left. As he turned to watch her enter the house and then started on again, the tramp heard the mother say, in reply to some sweet-voiced explanation of her kind act:

"Why, shucks! he's only a tramp!"

The tramp went on thru the dust and was soon out of sight around a bend in the road, en route to—who knows?

There was the road, or other roads much like it, and after all he was "only a tramp," wasn't he?



Judging a Dentifrice

**AT the Poultry Shows you like to watch** how carefully the judges examine each entry. You note how each individual point is thoughtfully weighed before the awards are made.

Just so in the selection of a tooth paste, you, like dentists, can judge each point with utmost care. Common sense tells you that you want a safe dental cream which washes and polishes the teeth thoroughly, that has no harsh grit to "scratch" or "scour" the precious, protective enamel. And you want one without strong drugs, one which does not harm the delicate tissues of your mouth.

## COLGATE'S Cleans Teeth the Right Way

"Washes" and Polishes—Doesn't Scratch or Scour

Impartial tests made by dentists "gave the Blue Ribbon" to Colgate's Ribbon Dental Cream—more dentists recommend Colgate's than any other. It not only cleans thoroughly but has a delicious flavor that encourages the habit of regular tooth brushing. You can get a LARGE tube of Colgate's Ribbon Dental Cream for 25c.

Ask also to see the other Colgate articles listed below. If your store doesn't have them all we will mail you samples as called for in the Coupon.



**COLGATE & CO., Farm Household Dept. 87**  
199 Fulton Street, New York, N. Y.

PLEASE send me samples of the following articles. I enclose the amount of stamps shown for each one checked.

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Name..... Town..... State.....  
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Dealer's Name.....  
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**Larkin Corp.**  
Desk SSF-422, Buffalo, N. Y.

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**KALAMAZOO STOVE COMPANY, Mfrs.**  
Kalamazoo, Michigan

**A Kalamazoo Direct to You**



# KEEP THINGS BRIGHT AND SHINY

*Follow This Plan and Two Cleanings a Year Will Do It*

By MRS. ETHEL RIGNEY



The brass bed I polish briskly with a soft cloth.



A cork is pressed into service in cleaning the kitchen cutlery.



Electric fixtures require climbing and reaching.

**L**ITTLE by little our savings enabled us to add modern touches to our modest farm home until I found myself surrounded with countless metal fixtures to keep clean. I did not know how the different metals should be polished, so I sought information here and there until now I have an excellent working plan that I think any homemaker will find feasible. Friends have been astonished to learn that I polish the metal equipment and the fixtures only twice a year. Early spring and late fall are the times I choose, because the farm work is light then and my four children are in school so I can have practically the entire day for "making things shiny." However, I have found that all metal has to be given a reasonable amount of daily care if two polishing days in every three hundred and sixty-five are to suffice. Tarnish is the big factor with which I have to cope in caring for brass and silver. Aside from this, there is an accumulation of grease that collects on exposed fixtures and which holds the dust. It is the formation of this unsightly coating that daily or at least weekly care prevents.

I have taught my daughters that which I had to learn by experience, namely, that it pays in the long run to take a piece of cotton flannel and carefully wipe every metal knob, handle and fixture after the room has been dusted on weekly cleaning days. This removes the greasy, dusty coating from the metal and restores the original luster.

When we wash the dishes we pay especial attention to the silver. It is washed in clean, hot soapy water, rinsed in hot water and dried with a clean towel. As a result of this bit of care, I find that the "twice a year" polishing is all that it needs. Even the silver that is not used constantly is kept bright by being given an occasional hot bath. Water is never permitted to remain on the nickel trimmings in the bathroom and kitchen so discolorations are slow to form on them.

On "polishing" days the electric fixtures are given attention first because they call for climbing and tiresome reaching. With my kitchen step ladder set in place and armed with warm soap suds and a sponge, I make my ascent to the drop chains. These are lacquered and I have found that I need to use care in cleaning them. Hot water and strong soap will remove the lacquer but warm, soapy water applied with a sponge that slips readily between the links will cut the dirt. I always follow this treatment with an application of clear, cold water and dry the fixtures with a soft cloth. I have learned that lacquer will crack and peel if not moistened with a thin oil, so I never fail to apply a little sweet oil as a parting touch.

The knobs and handles on doors and dresser drawers, the brass wall plates in which the electric switch buttons are placed, the one brass bed that the household owns and the brass bands on my daughter's cedar chest are not lacquered. These I polish with a paste made of rottenstone and sweet oil. I put the paste on smoothly and when it is dry, I remove it by rubbing briskly but gently with a soft cloth. Much to my joy the brass is no longer lusterless.

Much experimenting has resulted in my choosing whitening mixed with diluted ammonia for restoring the brightness to nickel fixtures. Bathroom and kitchen sink faucets, the nickel trimmings on the range and the nickel on the telephone comprise the metal of this type that needs to be burnished. A small brush has been found convenient for rubbing around the base of the faucets and the drain. Like the city office employee, I take my full hour at noon. I spend the afternoon cleaning my silver. Here my Japanese tray is brought into service so that one trip from dining room to kitchen is all that is necessary. I never use friction for cleaning silver.

I employ what I call the "kettle method." My aluminum preserving kettle is placed on the stove with two quarts of water in it. For every quart of water I measure one tablespoon of baking soda and one tablespoon of salt. When the water is hot I put the soda and salt into it, at the same time I put in the silver. I never crowd the silver in the pan for I have found that every piece must touch the aluminum if it is to be thoroughly cleaned. Like magic the darkened spots disappear and I remove the silver, wash it in hot water and rinse it in clear hot water. Each lot of silver is put into a kettle of fresh cleaning liquid. By employing this method there has been no wear and tear on the silver and my arms have been saved much strenuous rubbing.

The first time I cleaned my silver pitcher, I found that the tarnish had formed between the upper curve of the handle and the pitcher. After puzzling for a while about the best way to get to it, I decided to try placing the handle of an aluminum egg poaching cup on the tarnished place. I kept both the pitcher and the cup under the water. Much to my surprise the tarnish disappeared. Since that discovery, I do not have any difficulty removing discolorations from "difficult-to-reach" places.

Another discovery that I made was that this combination of water, baking soda and salt, acting in the presence of aluminum will remove the French gray that frequently outlines the designs on silver. Such pieces I clean with whitening moistened with water. The silver on toilet articles is brightened by rubbing, too, since they cannot be put in the cleansing solution.

That every bit of metal in the house may have its newness restored, I close my day's activities by scouring my kitchen cutlery. On this I use bath brick moistened with diluted ammonia. A cork is pressed into service as a means of applying the paste. The large end of the cork fits the cutlery and a few firm strokes are all that are required. If any of it happens to be rusty I use rottenstone mixed with sweet oil. A bath in hot, soapy water, a hot rinse and quick drying finishes this set of equipment.

It isn't an easy day's work, but it is rather a pleasurable one because it is a change from the regular routine. Tired as I may be, when I look at the gleaming, satiny metal a feeling of satisfaction steals thru me, for I know it is a task that need not take time again for six months.

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## FROM A PRIVATE COOK BOOK

One of the secrets of having foods come out right is to be exact in measurements, to blend thoroughly and properly and to watch the cooking or baking process that the results achieved may be of the best.

The following are taken from a private cook book and should prove an addition to one's tested recipes:

## Tapioca Pudding

- |                   |              |
|-------------------|--------------|
| 1 c. tapioca      | 1 qt. milk   |
| 2 eggs            | 1/2 c. sugar |
| 2 tsp. cornstarch | Salt         |

Soak the tapioca three or four hours. Heat the milk and add the tapioca, letting it boil twenty minutes. Beat the yolks of eggs with the sugar, cornstarch and salt. Stir into the milk and boil until it thickens. Pour into a dish, beat the whites of the eggs with three tablespoons of sugar, spread over the top and set in the oven to brown.

## Very White Layer Cake

- |                |                      |
|----------------|----------------------|
| 1 c. sugar     | 1/2 c. milk          |
| 2 1/2 c. flour | 2 tsp. baking powder |
| 1/2 c. butter  | Whites of 3 eggs     |

Cream butter and sugar, add milk, stiffly beaten egg whites, flour sifted with the baking powder.

## Sausage

- |              |                 |
|--------------|-----------------|
| 40 lbs. meat | 1 lb. salt      |
| 2 oz. pepper | 2 oz. sage      |
| 1 pt. flour  | 1 qt. hot water |

## Doughnuts

- |                 |                 |
|-----------------|-----------------|
| 2 c. sugar      | 1 egg           |
| 1 c. sour cream | 2 c. sour milk  |
| 2 tsp. soda     | 2 tsp. cinnamon |
| 2 tsp. salt     | Flour to roll   |

## Graham Pudding

- |                       |               |
|-----------------------|---------------|
| 1/2 c. molasses       | 1/2 c. butter |
| 1/2 c. sweet milk     | 1 c. raisins  |
| 1 1/2 c. graham flour | 1 egg         |
| 1 tsp. soda           | Pinch of salt |

Mix ingredients thoroughly and steam. This may be served with the following sauce:

## Pudding Sauce

- |            |                     |
|------------|---------------------|
| 2 c. sugar | 1/2 c. butter       |
|            | 1/2 c. boiled cider |

Cream the sugar and butter. When well mixed stir in the cider a little at a time. Let the mixture heat thoroughly, but do not boil.

## Sour Cream Pie

- |                 |                      |
|-----------------|----------------------|
| 1 egg           | 1 c. sugar           |
| 1 c. sour cream | 1 c. chopped raisins |
| Little salt     |                      |

Beat ingredients all together, and bake with two crusts.

## Brown Bread

- |                       |                    |
|-----------------------|--------------------|
| 2 c. sour milk        | 1 c. molasses      |
| 1 1/2 c. graham flour | 1/2 c. Indian meal |
| 1/2 c. flour          | 1 tsp. soda        |

1 tsp. salt

Mix ingredients thoroughly. Steam one hour and bake fifteen minutes.

## Chocolate Pie

- |                          |                  |
|--------------------------|------------------|
| 3 tbsp. grated chocolate | 1 c. milk        |
| 1/2 c. sugar             | 1 tsp. seasoning |
| 3 egg yolks              | 2 tbsp. flour    |

Mix the ingredients and let them boil until they are thick, then pour into the crust. Beat whites of eggs for frosting.

## Fruit Cookies

- |                |                 |
|----------------|-----------------|
| 1 1/2 c. sugar | 1 c. butter     |
| 3 eggs         | 1/2 c. molasses |
| 1 tsp. soda    | 1 c. raisins    |
| 1 tsp. cloves  | 1 tsp. cinnamon |
| 1 tsp. ginger  | 1 tsp. allspice |

Flour to roll

Cream sugar and butter, add eggs well beaten, molasses, soda dissolved in a little cold water, raisins, spices, and flour.

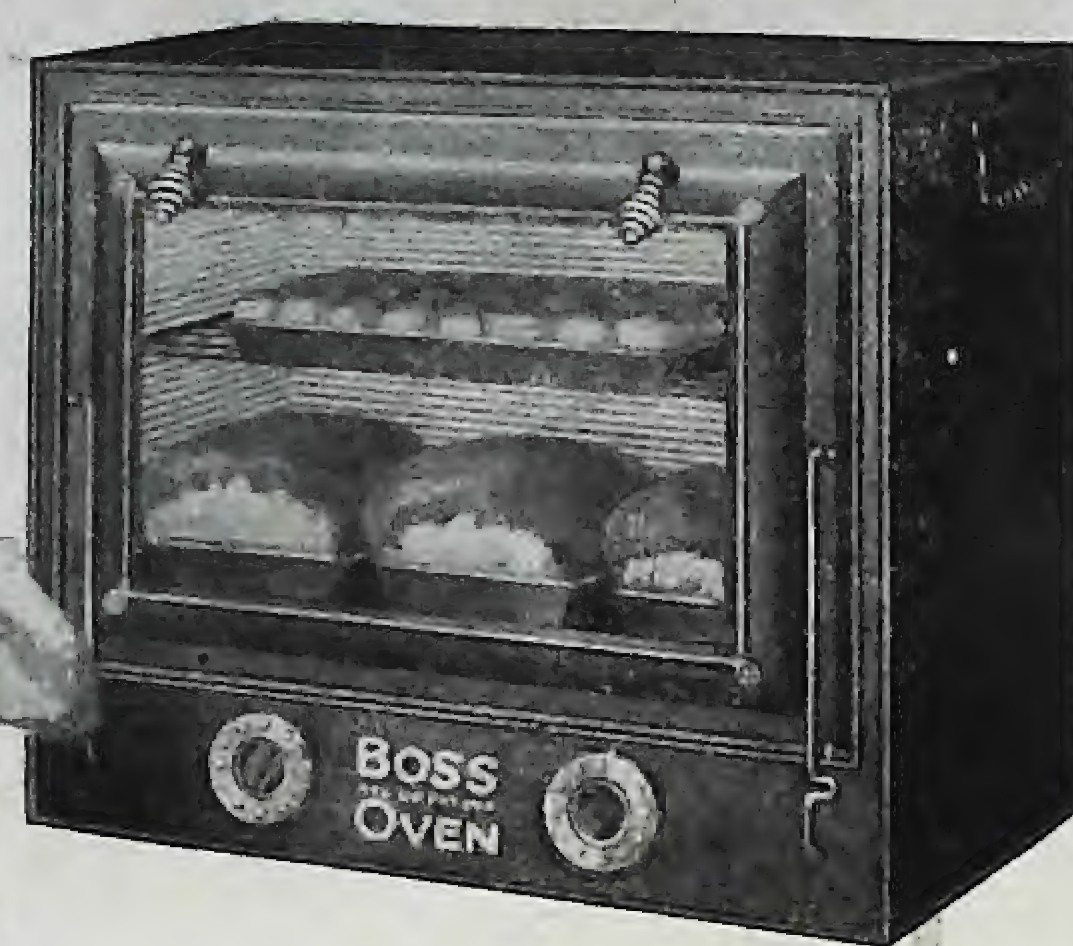
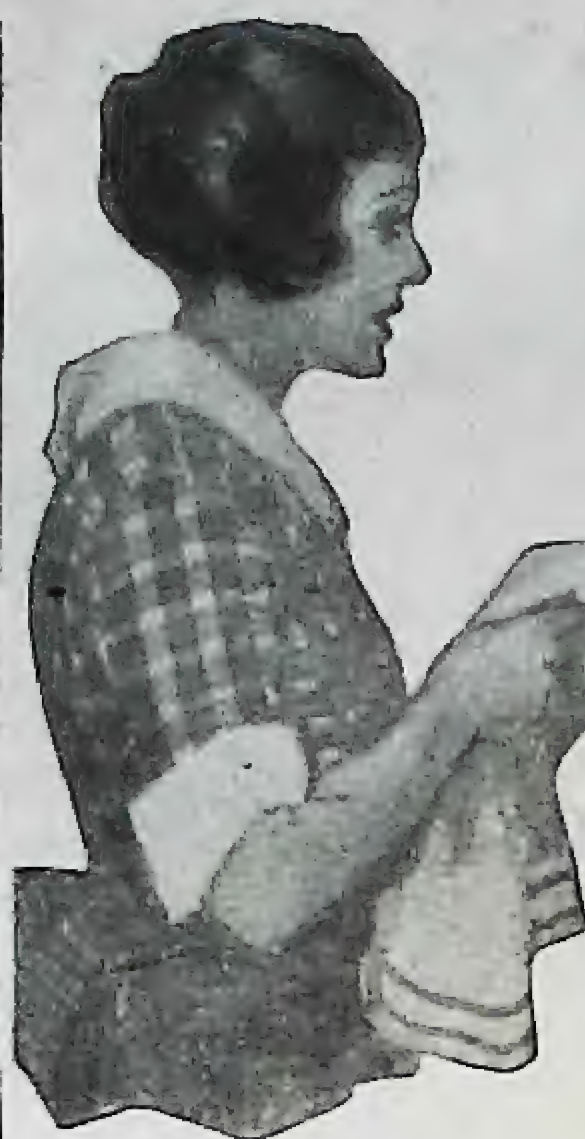
## Fried Carrots

Pare and boil carrots in salted water until tender, cut in pieces, dip in beaten egg, roll in flour and fry in hot drippings. Sprinkle with salt and pepper and serve hot.

## Apple Sauce Cake

- |                                    |                   |
|------------------------------------|-------------------|
| 1 c. sugar                         | 1/2 c. shortening |
| 1 tsp. soda                        | 1 c. apple sauce  |
| 1 1/2 c. flour                     | 1 tsp. cinnamon   |
| 1/2 tsp. each of cloves and nutmeg | 1 c. raisins      |

Cream sugar and shortening, dissolve soda in a little hot water, stirring it into



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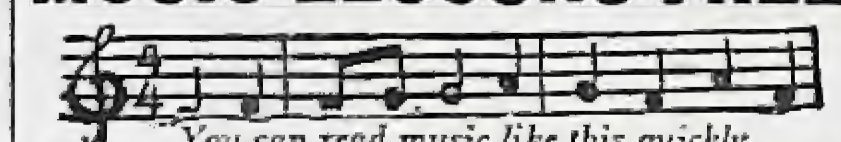
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the apple sauce. Let it foam over into the mixing bowl, then add the flour sifted with the spices and nutmeg. Mix thoroughly and add the raisins. Bake in a loaf tin about forty-five minutes.

## Salad Dressing

- |                |                |
|----------------|----------------|
| 1 tsp. mustard | 1 tsp. salt    |
| 2 tbsp. sugar  | 3 eggs         |
| 1/2 c. butter  | 1 c. milk      |
|                | 1/4 c. vinegar |

Mix mustard, salt, and sugar, and wet with a little milk until mixture is smooth. Add the eggs well beaten, add butter, milk and vinegar and cook until just ready to boil. Remove and stir until cool.—E. G. W.

### POINTS ON ETIQUETTE

Note.—As many questions upon points of etiquette will be answered in this department space will permit. Address your letters to Editorial Department, Successful Farming, Des Moines, Iowa, and be sure and sign your name. Unsigned questions will not be answered. No names will be published. Those desiring personal answers must enclose a two-cent stamp.

A Missouri girl wishes to know if it is proper when at a friend's house to help her with work such as washing dishes or getting a meal? Also when dining at a public place, if you should eat pie with a spoon or fork, and when you should use your knife?

When you are visiting in a friend's home, you should help with the work all that you can, in order that your hostess may not feel the burden of extra tasks on your account, and so that there will be more time for visiting. Pie is always eaten with a fork, no matter where you are dining. The knife is only used for cutting foods which cannot be cut with the edge of the fork, and for spreading butter upon bread.

An Illinois subscriber asks: "What is a guest set, and how is it used?"

The term "guest set" is applied to a small water bottle and individual drinking glass, which is placed in the guest room to be filled with ice water for drinking, and sometimes to a toilet set.

A Pennsylvania boy asks: "Should a man offer his hand when introduced to a lady? Should a man rise when he is greeted by a lady whom he already knows?"

A lady takes the initiative in offering to shake hands with a newly introduced male acquaintance. Men should rise when ladies enter the room and remaining standing until the ladies are seated.

A Kansas reader asks: "When one does not understand the name during an introduction, what should one do?"

If you did not catch the name of the person being introduced, it is proper to ask it, saying, "Pardon me, but I did not understand the name."

A South Dakota reader asks: "When a young man comes to see you, should your folks help entertain him?"

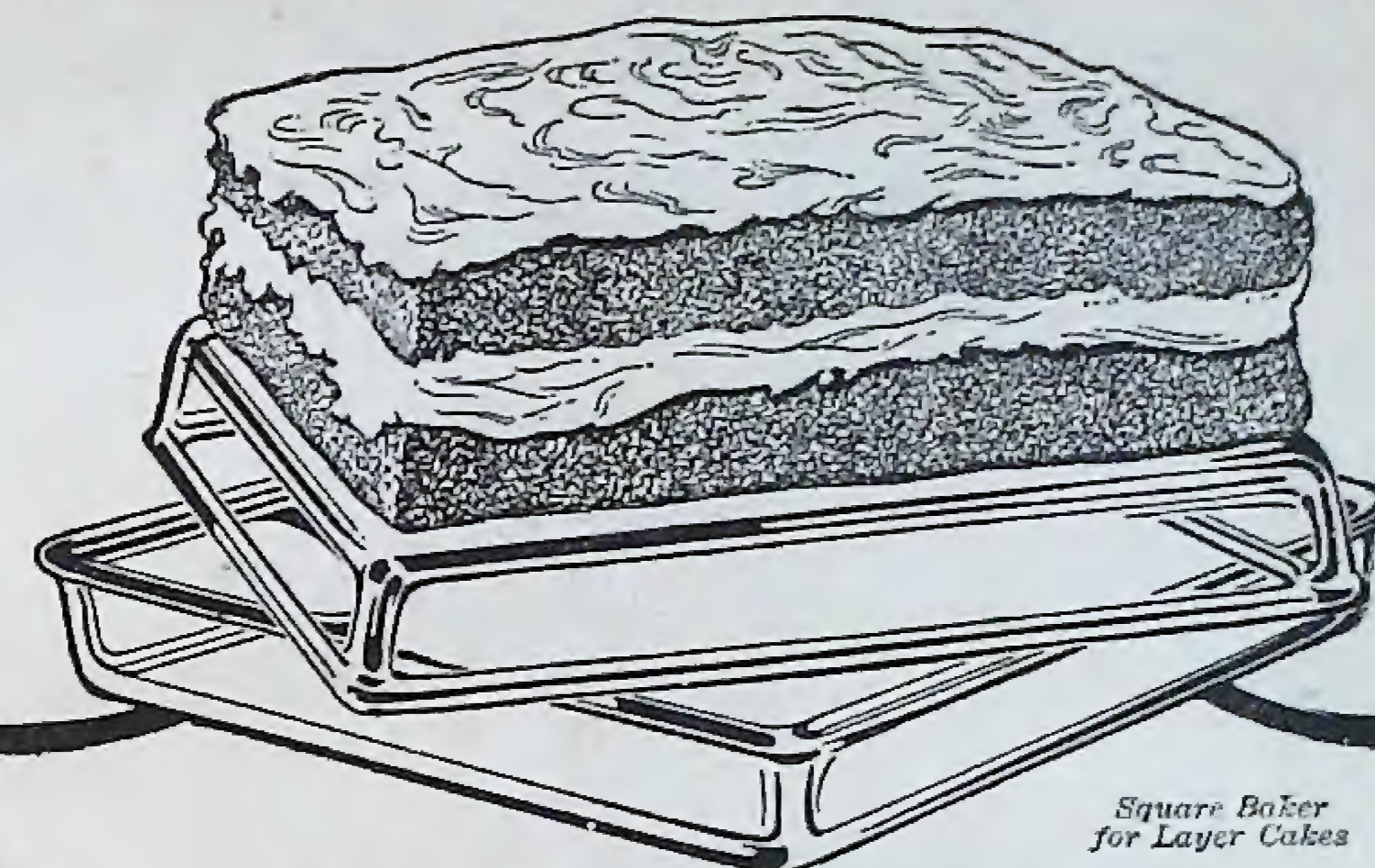
When a young man comes to call for the first time, you should take pains to have your parents meet him. They will probably sit and visit a little while, and then leave you two to visit with each other.

A Nebraska subscriber asks: "When a boy calls on his girl friend, should she meet him at the door or at the yard gate?"

You should greet a caller at the door. Do not go outside to meet him.

A Kansas reader writes: "What is the proper thing to say at the end of a dance before leaving your last partner? How must I dispose of my last partner before looking for the next one?"

After a dance, you and the partner you have just danced with sit and visit until the music begins for the next dance. When the dance ends, you may say something to this effect, "Where will I find you a seat?" or "Shall we sit here?" and at the opening of the music for the next dance, "Please excuse me; I must find the young lady who promised me this dance," after which you can slip away to find your partner.—Bertha Averille.



Square Baker for Layer Cakes

### Baking That is Baking

WHEN a woman says she can't bake a layer cake with the layers always exactly uniform, you know she is a *pan* baker and not a *Pyrex* baker. The new square Pyrex Baking Dish is not only supreme for layer cakes, but for biscuits, rolls, corn bread and many other foods.

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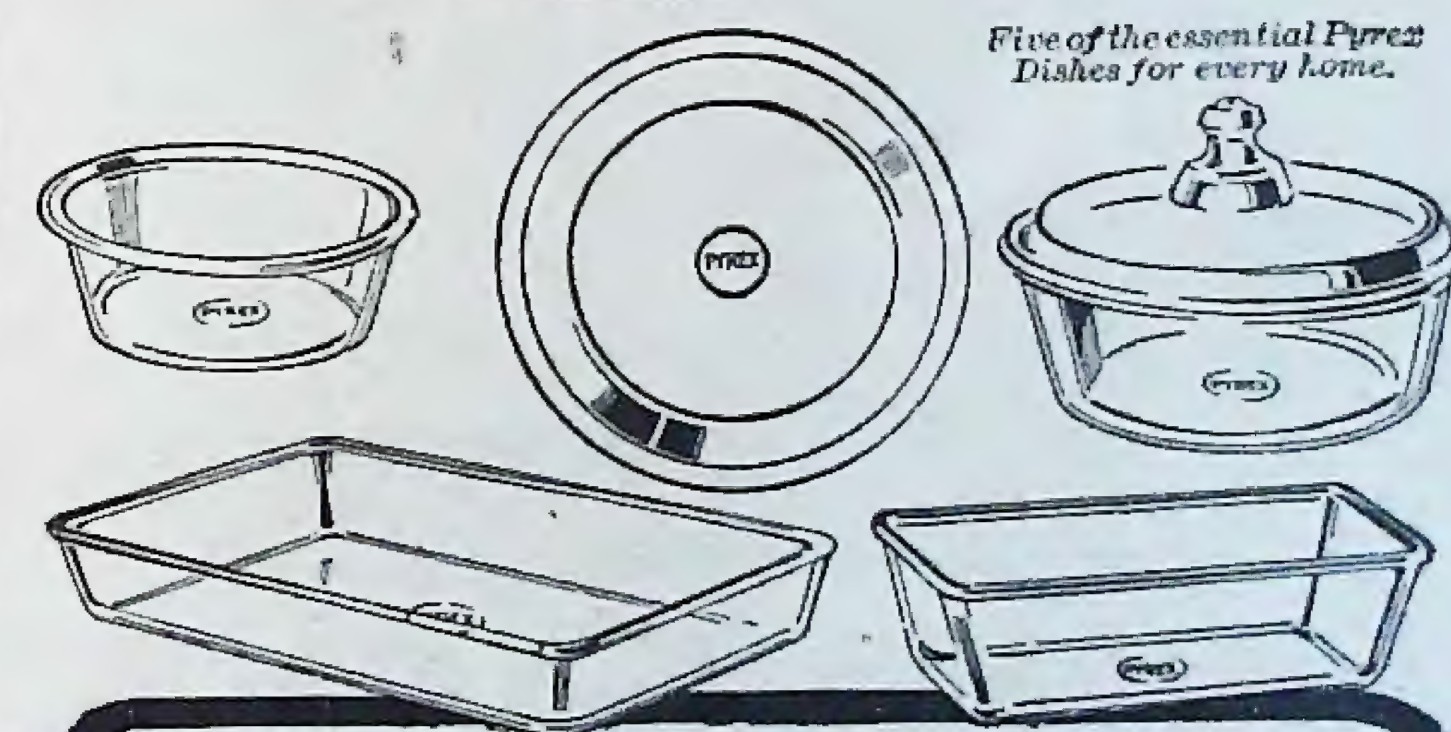
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# OUR PATTERN DEPARTMENT



**3913—Slip and Dress.** Here we have the new "wrap" skirt, a pretty waist, and a very unique sleeve. The pattern provides for additional opening. It is cut in six sizes: 34 to 44 inches bust measure. A 38-inch size requires 4½ yards of 44-inch material. Gabardine, broadcloth or kasha cloth could be used for this model. It is also nice for crepe weaves and wash fabrics. The width at the foot is about two yards.

**3910—A Bolero Effect.** This style will readily appeal to the woman of slender lines. It is good for plain and figured foulard, for the new Paisley material combined with satin or pongee, also gingham and linen. The bolero is worn over a camisole slip. It features the new full skirt. The pattern is cut in six sizes: 34 to 44 inches bust measure. The 38-inch size requires 3½ yards for the slip of 44-inch material and 2½ yards of 40-inch material for the bolero. The width at the foot is 2½ yards.

**3926—Coat Dress.** The smart but simple lines of this dress will appeal at once to the woman of conservative taste. It develops equally well in taffeta, velvet or linen. The pattern is cut in three sizes: 16, 18 and 20 years. The width at the foot is about 2½ yards. As here portrayed, kasha cloth was used with bands of wool embroidery for trimming. To make the dress for an 18-year size requires four yards of 44-inch material.

**3918—Girls' Dress-up Frock.** It will lend itself nicely to a development in crepe de chine with a finish of picot, or to taffeta, net, batiste, or organdy. If desired, the skirt may be made with a single tier and the sleeve finished without the ruffles. The pattern is cut in four sizes: 8, 10, 12 and 14 years. A 10-year size requires 4½ yards of 38-inch material.

**3919—Youthful Gown.** This dress is pretty in taffeta or crepe with trimming of ribbon arranged in lattice effect, and tiny roses for a finish. Embroidery or braid, too, is effective. The sleeve may be finished without the puffs. This pattern is cut in three sizes: 12, 14 and 16 years. A 14-year size requires 3½ yards of 40-inch material. The width of the skirt at the foot is about two yards.

**3929—Neat House Dress.** The lines are comfortable and pleasing. The pattern is cut in seven sizes: 34 to 46 inches bust measure. A 38-inch size requires 6½ yards of 36-inch material. The sleeve may be finished in wrist or elbow length. The width of the skirt at the foot is two yards.

**3909—Overall Apron.** In black saten with a decoration in colors it makes a pretty home "frock." This pattern is cut in four sizes: small, 34-36; medium, 38-40; large, 42-44; extra large, 46-48 inches bust measure. For a medium size it will require 4½ yards of 36-inch material.

**3930—Little Girls' Dress.** Here is ease and convenience for a "little" person and quite the latest fashion whim—to "wrap" your dress about you without "maiming" up your hair. The basket pockets will be attractive, and are useful, too. This style is good for repp, linen or gingham. The sleeve may be in wrist or elbow length. The pattern is cut in four sizes: 4, 6, 8 and 10 years. A 6-year size requires 3¼ yards of 32-inch material.

**3923—Small Boys' Outfit.** The straight trousers in this model will readily appeal to every small boy. Poplin is good for the blouse and corduroy or serge for the trousers. One could combine checked gingham and chambray or use cotton repp in two colors. The pattern is cut in four sizes: 3, 4, 5 and 6 years. A 4-year size requires 2½ yards of 27-inch material. Collar and cuffs of contrasting material requires ¼ yard.

**3921—Smock and Knicker Combination.** In this neat and simple play suit, "fashion" has contrived to develop a practical garment. The smock and knickers are cut in one, so the garment stays "together" and is easy to adjust. The pattern is cut in four sizes: 1, 2, 3 and 4 years. A 2-year size will require 2½ yards of 30-inch material. Pongee and cretonne are nice for this style.

**3920—Jumper Dress.** Voile or pongee could be used with embroidery, or gingham with wash braid or cross stitching. The pattern is cut in four sizes: 2, 4, 6 and 8 years. A 6-year size requires 2½ yards of 36-inch material. For the dress and 1½ yards for the gumpie.

**3903—Ladies' Blouse.** Here is a model that is becoming to stout and slender figures. It has long, pleasing lines and a pretty collar that forms revers over the fronts. Broadcloth and broadcloth here combined. The pattern is cut in seven sizes: 34 to 46 inches bust measure. A 38-inch size requires 3½ yards of 40-inch material.

**Catalogue Notice** Send 12c in silver or stamps for our Up-to-Date-Spring and Summer, 1922, Catalog, containing 500 designs of Ladies', Misses' and Children's Patterns, showing colored plates, a concise and comprehensive article on dressmaking, also some points for the needle (illustrating 30 various, simple stitches) all valuable hints to the home dressmaker.

**How to Order** To order any of the patterns shown on this page, write your name and address plainly, give correct number and size wanted, enclose 12 cents for each separate pattern ordered, and address your letter to Pattern Dept., Successful Farming, Des Moines, Iowa. Patterns will not be exchanged. Please do not request it.

## HINTS OF SPRING AND SUMMER FASHIONS

The array of colors and materials for spring is irresistible. For the youthful bouffant styles, there is taffeta and silk faille, crepe de chine, crepe faille and other crepe weaves, and georgette is used for draped and paneled models. For street suits and dresses, tweeds, twills, basket weave woolens and serges are used.

Prevailing colors are sand shades, gray, black, copper, jade, henna, light and dark blues and orange.

Flannel is a popular fabric for separate skirts in "wrap around" and plaited models.

A simple blouse of crepe may acquire distinction by the addition of a picot edge on collar and cuffs.

Hemstitching is a very pleasing finish for a blouse of linen or batiste.

A definite need in every woman's wardrobe is the costume slip. When worn with a tunic it serves in place of a skirt. It may be made of any material now in vogue.

Housework has now become a "noble profession," and its duties have been so lightened by modern appliances that one may be all dressed up while sweeping, baking or scrubbing. Housedresses are taking on lines of beauty and loveliness. The new slip on apron frocks serve all purposes of a house dress. One model with bib-like front lends itself well to combinations of cretonne and linen. It has attractive basket shaped pockets. Crepe of two harmonizing colors may be used for these apron dresses.

Sleeveless dresses are again with us, in new and pleasing effects. One also sees sleeveless blouses and coats, which are fine for wearing with separate skirts, and smart blouses.

Crepe, gingham and cretonne will be very popular for little girls' dresses, which are more than ever sensibly simple.

For the woman of mature figure the new coat blouses are very becoming, especially one which shows a vest effect.

Try brown Kasha cloth for a one piece dress with trimming of soutache braid and brown velvet for collar and cuffs.

Dark blue tricotine will be smart with a touch of red broadcloth, showing between loose panels.

Plain and printed crepe de chine combine well for an afternoon dress.

For a little girl's dress, pongee would be a good selection, in that it is serviceable and washes well.

Orange and white striped dimity is pretty with cross stitch embroidery in orange.

Gray voile may be cross stitched in bright blue.

A gingham frock will be all the more cool looking if its color is green with white and the trimming bands of green.

Bias bands of self-material on a dress of plaid or checked material will emphasize the design.

## WHEY MINT SALAD

The whey remaining from the making of cottage cheese contains valuable food elements. Too valuable in fact for the housewife to neglect the use of them. Whey possesses both of the growth promoting substances important in a satisfactory diet, and also holds in solution some lime, phosphorus and carbohydrates.

The following recipe for the use of whey in a mint salad is given by the Cornell home economics school:

1½ tsp. gelatin  
¼ c. finely chopped fresh mint  
2 c. whey  
¼ c. sugar  
2 tbsp. lemon juice or vinegar  
Salt

Soak the gelatin in one-fourth cup of cold water and dissolve it by setting the cup in a pan of hot water. Strain whey thru a cloth and add the gelatin, sugar, coloring matter just before pouring. Serve with any desired salad dressing.

# CULBRANSEN The Player-Piano



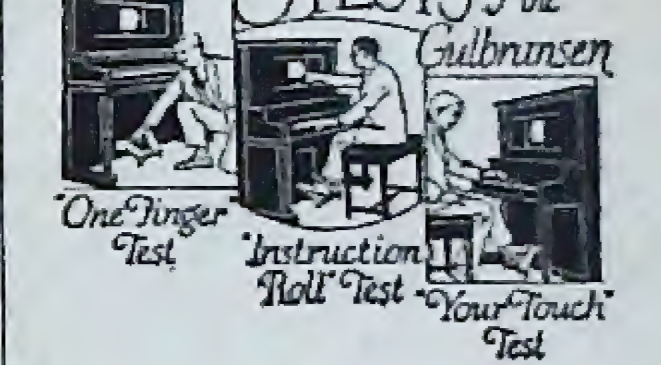
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## Our Young Housekeepers

### A BEAUTIFUL ROOM

"My! What a beautiful room—and it used to be so ugly. Do tell me how you did it."

"I'd love to, because I am so enthusiastic about it myself," replied the young girl to her friend. "I hadn't said anything about having my room decorated on account of father's having some notes to meet and I knew that if he and mother knew I disliked the room as it was, they would either sacrifice themselves in some way to pay for having it done, or it would worry them if they couldn't do it."

"Then one day I met a lady who was visiting the Salisburys and she told me how I could fix up my ugly room at the expense of only a few dollars. You can imagine I was glad to listen to her for the thing had got on my nerves altho I was trying to be resigned."

"I took everything out of the room and started with the painting of the wood-work; three coats of white paint has covered the old yellow pine. Decorators use many more coats but this suits me. You remember the shabby white walls? Well, this is done over with bluing. I diluted the bluing to the shade I wanted and then took a soft cloth about the size of a duster; I folded it to the thickness of my folded hand and about nine inches wide. I saturated it in the bluing, wringing it so that it would not drip, and then I rolled it from the moulding to the floor and did this until the whole wall was covered. The irregularly folded cloth brings out the two-toned effect with white showing thru. I whitewashed the ceiling, putting a tiny bit of bluing in the white-wash."

"I had forgotten about the horrid floor, so I 'phoned her and she said, 'Paint it!' 'What color?' I asked. 'What is your furniture?' she replied. 'Mahogany, colonial design,' I told her. Then she advised a dark green paint and rag rugs. She said that if the room was a north room perhaps mustard color would do better. The room having south and east windows, I decided on the green. You may think the blue and green combination rather queer, but I like it. I saw a green floor in the Paul Revere house in Boston and there was a heavenly blue trim on the white painted rafters on the ceiling. I loved the two colors together."

"Then I trimmed this unbleached muslin with chambray for curtains. I cut the chambray on the bias and made the outside row two and a half inches wide finished, and the inside row one and a half inches wide, first putting on a three-inch hem around the sides and bottom."

"When I had the furniture out I rubbed all the blistered and shabby places with a mixture of powdered pumice and linseed oil. My, but it looked nice when I was thru! Then as you see, I put a valance of muslin like the curtains and trimmed with the same, on the bed and dug up that old blue and white Irish chain quilt. The white of the quilt has yellowed with time so that the creamy tone of the unbleached muslin was just the thing to go with it. And, as you see, I have made a long sham covering both pillows and a dresser scarf trimmed in the same way."

"I wanted a desk and mother suggested that I paint this old living-room table. So I painted the legs and the lower shelf white and covered the top with blue felt. It's just what I want to write on. I found an old dining-room chair in the basement and painted it, and made the back and seat cushions of blue denim. It's very comfortable. I used all shades of blue in the rugs and some black and cream. I had



## "I Must Earn \$200 Quickly" Said Mrs. Snow and SHE DID

Mrs. Frank Snow surveyed ruefully the list before her. She knew it by heart, had written it down a score of times and each item seemed to grin and mock her as if to say, "get me if you can."

Clothes for the children, \$25, the insurance, \$12.50, that long-past-due doctor's bill, a new davenport for the living room, that dress she needed so badly, shoes for Frank, and then there would have to be something extra to keep the family larder well supplied when those visiting relations arrived. She added it up again, \$198.50 and no less would do.

But how to get this money? She thought of working in an office for a while or clerking in a store, even sewing or housework would enable her to overcome this everlasting need of more money than Mr. Snow's slender earnings could supply.

Reluctantly she put aside each idea as impractical, for had she not the home and the children to look after? If only there was something she might do at home, piece work sewing, for instance. But the nearest factory was miles away and then again they paid such small prices for the work.

Mrs. Snow was very nearly at her wits' end until one day she chanced to pick up a magazine and there, before her eyes, seemed to be the very thing she was looking for, the Gearhart Plan of Home Knitting. She read of how she could knit famous Allwear Hosiery in the comfort and privacy of her own home, utilizing the spare time which every housekeeper finds each day. Or she could devote all her time, as she wished.

Mrs. Snow investigated and found the Gearhart Company to be a fine old concern with a reputation for doing exactly as they promise, and thousands of satisfied women home knitters, and men too, who had seized the opportunity Gearhart offered.

Like many another woman who has felt the urge of necessity, Mrs. Snow sent for a Gearhart Standard Knitter and the splendid three-year work contract sent with each machine. Soon she was turning her spare time into a tidy weekly income.

She was delighted with the ease and simplicity with which she was able to knit the loveliest hosiery and still more delighted when the checks from the Gearhart Company began to arrive in

over-increasing amounts. The liberal pay per dozen just for knitting, urged her to greater efforts as it seemed to her hardly more than a pleasant occupation with none of the back-breaking, soul-rendering strain of hard domestic labor.

### So YOU CAN Succeed

Can you picture how delighted they were when the \$200 was earned and the bills all paid? Can you picture the joy that you, too, would feel after you had accumulated the wherewithal to buy the hundred and one things every woman wants, to help tide the family over financial troubles or to lay away a nest egg for a rainy day?

Does this hypothetical case of Mrs. Snow mean anything to you? Are you in a position where it would be desirable to turn your spare time into dollars and cents? If so, here is the opportunity for which perhaps you have been long awaiting, a home occupation so easy and fascinating that you will regret not coming upon it before.

Gearhart has the money and YOU have the spare time. Is there any reason why you cannot get ready to become one of the Gearhart Home Knitters of Allwear Hosiery?

### Prompt Action Gets the Money

You are cordially invited to write at once to the Gearhart Company for free full particulars. They will gladly explain the details—how you can get the Gearhart Standard Knitter, free yarn, and full instructions how to knit Allwear Hosiery. You will learn of the liberal price they will pay you for your industry and all about the generous three-year contract which you may also have.

Don't wait, write today. Delay may be dangerous to your opportunity. Can you or any other woman who is really anxious to earn money at once in the privacy of her own home afford to wait a single day? Write now for the Free Profit Guide Book, including samples of knitting and full particulars. Address the

**GEARHART KNITTING MACHINE COMPANY**  
Dept. S.F. 729, Clearfield, Pa.

## SALT should be free from Moisture



The crystals or flakes of ordinary salt are hard and slow dissolving.

Did you know that salt, free from moisture, means you are getting all salt—full weight of salt flavor and salt benefit?

The soft, porous, quick dissolving flakes of Colonial Special Farmers Salt are free from moisture and all adulteration. That is why it does not cake or harden like ordinary salts, and that is one reason why a 70 lb. bag is as big and does the work of a 100 lb. bag of ordinary salt.

Remember, only salt that dissolves completely, instantly, is good salt. Best for every farm purpose—cooking, baking, butter making, meat curing and table use.



The soft porous flakes of Colonial dissolve instantly.

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Greatest farm and town-home convenience ever devised. Insures complete privacy. No sewers—no plumbing—no running water—sanitary. Guaranteed odorless and germ proof. Write for FREE catalog. **DETROIT INCUBATOR CO.** Dept. 1091 Detroit, Mich.



**LOOMS \$9.90 AND UP. BIG MONEY IN WEAVING AT HOME.**  
No experience necessary to weave beautiful rugs, carpets, etc., on UNION LOOMS from rags and waste material. Home weaving is fascinating and highly profitable. Weavers are rushed with orders. Be sure to send for free loom book. It tells all about weaving and our wonderfully low-priced, easily-operated looms.

**UNION LOOM WORKS, 274 Factory St., Boonville, N. Y.**

them woven just the size I needed for the place. Then I made this cream-colored lamp shade to brighten things up."

"It's perfectly lovely!" declared the enthusiastic friend.

"And best of all it cost only a few dollars. I didn't have to wait for father to have some extra money. I have my room now and I enjoyed doing it. I wouldn't have had that pleasure if I had had the money to go to the store and buy what I needed."

"It cost just what the bluing, paint, pumice, oil, muslin, chambray, felt, and silk for lamp shade and the expense of weaving the rugs came to. Just think of what it might have cost!"—L. H. C.

## Bed Time Stories

### "RAIN, RAIN, GO AWAY"

Beating and dashing against the pane, so hard and fast came the summer rain, that inside the window, little Grace gazed at the sight with a tear-stained face. "Mother, why doesn't it stop?" she said. "I want to go out and play, instead of staying in thru the whole long day, while the rain pours down this tiresome way."

"Don't talk like that, girlie," her mother said, as she smoothed the curly golden head. "Just come and sit in my lap a while, till we lose those tears and find a smile. I feel quite sure that when I explain, you won't feel so bad about the rain."

So Grace climbed up on her mother's knee, thinking that she could never agree that rain was as good as sunshine bright, with its warmth which gives such great delight.



"Now, think, little girl," her mother said, "of all the plants in your flower-bed. You water them ev'ry day or two, but if you forget what do they do?"

"They get all wilted and look so dry," said Grace, "that it almost makes me cry to think how thirsty they all must be. Then I give them water quick, you see."

"Yes, dear," said her mother, "and just so it is with all of the plants that grow; the grass that covers the meadows wide; the flowers and bushes on ev'ry side; the trees in the forest, straight and tall, all must have water, yes, each and all. These little showers that last an hour might be enough for a thirsty flower, but the big, tall trees whose roots go deep, need more than showers their lives to keep. So sometimes God sends a rainy day and down it pours in a steady way, that soaks to the roots of ev'ry tree and they all drink deep as deep can be. There, now, does my girlie understand why things are best as they have been planned?"

"Yes, now you've explained it all to me," said Grace, with a smile. "I see why we need rainy days now and then. 'I'll be content till it's clear again.'"—E. G. B.

There is no possession so valuable as good habits, and none worse than bad ones.



## Kyanize FLOOR FINISH

One operation does the work. Nothing to mix—nothing to fuss with. New life and new beauty is quickly given to old things, and a finish of true permanence, waterproof and wear-resistant, is assured when Kyanize Floor Finish is used on

### Furniture and Woodwork

Made to endure abuse on floors, Kyanize Floor Finish is, for that very reason, ideal for furniture and woodwork. Eight handsome permanent colors from Light Oak to Dark Mahogany. Clear varnish if you choose. But try it, that's the way to prove its usefulness to you. Accept our free offer below.

### FREE WITH THIS COUPON

Present this advertisement to any Kyanize dealer with 15 cents for a good brush to apply it, and receive a quarter-pint can of Kyanize Floor Finish (any color) FREE of charge.



Manufactured by  
**BOSTON VARNISH COMPANY**  
102 Everett Station, Boston 49, Mass.  
Chicago Office & Warehouse: 519 West Roosevelt Road

## EMPIRE ICELESS REFRIGERATOR

**PLAN** now to prevent food from spoiling during the hot summer months. Sanitary, all-metal, rust-proof refrigerator keeps food fresh and sweet without ice. Satisfied users everywhere. Costs nothing to operate—lasts a lifetime.

Windless type lowers into well, basement or special excavation. Easily and quickly installed. A child can operate it.

Write for Free Folder

Evaporation type refrigerator recommended by U.S. Department of Agriculture. Cools by evaporation.

Lowest Priced Practical Refrigerator Made. Costs less than a season's ice bill—pays for itself repeatedly in saving of high-priced food.

Price Only \$18.95 FREE—Attractive folder in colors with complete descriptions and prices. Write for it. **EMPIRE MFG. CO.** 147 N. 7th St. Washington, Iowa

Successful Farming advertisements may be relied on. They point the way to square deals.

## NEW KIND OF HEAT!

Sanitizes coal and wood. Cheaper—burns 55% fuel, 5% oil. All-year cooking and heating. 3 times more heat in winter—no roasting kitchen in summer—fully heat for changeable Spring and Fall.

### Use it in Your Stove 30 Days Free

Don't fuss over a hot, mussy stove! This new invention—the Oliver Improved Oil-Gas Burner saves money, time, labor, health. No fires to make. No ashes, dirt, smoke, odor, chopping, shoveling, carrying dirty coal or wood. Saves hours of work. Doesn't change your stove, simply fits in firebox, easily slipped in or out, absolutely safe. Lasts lifetime. Gives even heat instantly, much or little by simply turning valve. Fine any season of year.

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Oldest, Largest Manufacturers of Oil-Gas Burners in the world. Agents earn as high as \$500 a month. \$25 a day spare time is easy. Exclusive territory. Big all-season seller. Write for Special Offer.

**SENDERS—WONDER MONEY MAKERS.** Need leads instantly in all states, hot money, fast, see insert and details. Write today. **Conlette Mfg. Co., 11309 Amsterdam, N. Y.**



## Be Careful What You Wash Your Hair With



MABEL NORMAND

"I never knew a shampoo could be so delightful." Most soaps and prepared shampoos contain too much alkali, which is very injurious, as it dries the scalp and makes the hair brittle.

The best thing to use is Mulsified coconut oil shampoo, for this is pure and entirely greaseless. It's very cheap and beats anything else all to pieces. You can get Mulsified at any drug store, and a few ounces will last the whole family for months.

Simply moisten the hair with water and rub it in, about a teaspoonful is all that is required. It makes an abundance of rich, creamy lather, cleanses thoroughly, and rinses out easily. The hair dries quickly and evenly, and is soft, fresh looking, bright, fluffy, wavy, and easy to handle. Besides, it loosens and takes out every particle of dust, dirt and dandruff. Be sure your druggist gives you Mulsified.

## DEAF?

This Smile Says "I Hear Clearly"



If you are hard of hearing you have embarrassing moments—sodo your friends. It is not worth while to see if all this embarrassment can be avoided? 500,000 persons are now hearing clearly by aid of the Acousticon.

A New York Physician says: "It is of great value to me. I should have been obliged to give up the practice of medicine long ago if I had not obtained this best of all devices for the aid of hearing."

We offer you the **1922 ACOUSTICON** For 10 Days' FREE TRIAL No Deposit—No Expense

Just write, saying "I am hard of hearing and will try the Acousticon." Give it a fair trial amid familiar surroundings—thus you can best tell what it will do for you.

Remember, however, that the Acousticon has patented features which cannot be duplicated. So no matter what your past experience has been send for your free trial today.

DICTOGRAPH PRODUCTS CORP. 1358 Candler Bldg. 220 W. 42 St., N. Y. City

FREE "Linene" COLLAR

For trial, a sample of our New Style Collar, if you send 2 cents for postage and state size wanted.

Reversible Collar Co., Dept. Q7, Boston, Mass.

## SQUIBS FROM A FARM WIFE'S NOTE BOOK

In ripping an old garment, cut a few stitches with the scissors, then put the material under the presser foot of your sewing machine and let it hold it firmly while you quickly do the ripping with a sharp knife or old razor blade.

Watch yourself. Don't imagine unkindness where none was intended.

Cheese will keep in any weather if covered thinly with melted paraffin. This may be applied with a small paint brush and removed without trouble.

If your caramel filling threatens to "sugar," add a little cream and stir vigorously. This will make the filling creamy and soft.

The things that really harm us are the things we are continually complaining about.

A cake of soap will be materially saved if the bottom is covered with tinfoil to prevent wasting away when put in a damp place.

Save time and annoyance by using a shoe horn when putting on children's rubbers. Also, if the top of the shoe is tight, slip one in next to the leg to prevent pinching when buttoning.

Even a hard day isn't too hard if it is taken one step at a time. Just keep on doing the one "next thing" and presently all that really matters are done.

Habits are sometimes heavy, troublesome chains and they are sometimes one's best friends. Grow the right sort.

To make a stiff froth, whites of eggs must be fresh, should be very cold, have a little cold water added to them and be beaten in a cool place.

Not everyone can say clever things, but everyone can say kind things.

If your friend always has delicious bread and cake, perhaps she has two different kinds of flour. We always use two and find the cake flour brings much better results in the finer baking.

Do you ever fall down the last few steps of your cellar? If so, try painting the lower step white and you will always be able to see it in the dark.

When cleaning white shoes, put a few drops of ammonia in the water you use for dampening the sponge. It will whiten your shoes and take out all stains.

When making new pillows, make a slip of strong mosquito netting. Put feathers in here. Slip this first pillow into the ticking and fasten with clasps. The feathers can be easily removed for airing and the ticking for washing.—Mrs. F.A.N.

## DAINTIES FOR THE LUNCH-BOX

Children are very fond of graham sweet sandwiches. The filling is simply pulverized sugar delicately flavored.

The best way to mix the sugar to the right consistency is to drop a teaspoonful of milk into the middle of a cup or bowl of the sugar, add a drop of desired flavoring, and stir in sufficient sugar to make a soft ball in the cup. When you have the ball of about the solidity of butter, spread it thickly on a cracker and press another cracker over it. The filling should not be liquid enough to run over the sandwich. Mix up your cupful of sugar this way, a little at a time. It takes a surprisingly small amount of milk to reduce the powder to paste, and I find this method the safest way to avoid a thin filling.

Lemon extract is the flavor commonly used but other flavors may be used to suit the taste. By adding cocoa to the sugar and flavoring with vanilla, an attractive "chocolate" sandwich is made.

These dainties are more wholesome than cake, doughnuts and many confections, and make a nice lunch-box article. This is a good way to induce children to eat graham flour where they dislike coarse breads.—J. E. T.

## Keep Musterole on the bath-room shelf

Years ago the old-fashioned mustard plaster was the favorite remedy for rheumatism, lumbago, colds on the chest and sore throat.

It did the work all right, but it was sticky and messy to apply and my how it did burn and blister!

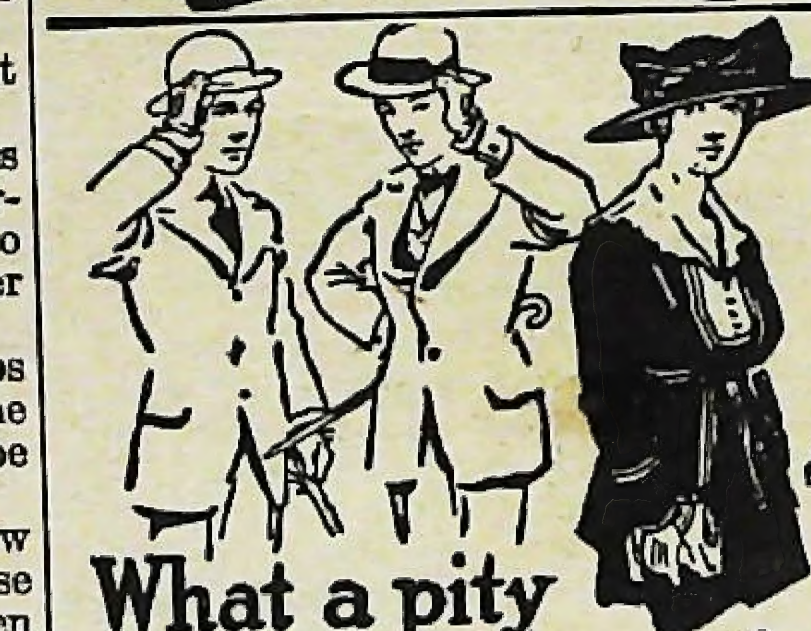
The little white jar of Musterole has taken the place of the stern old mustard plaster.

Keep this soothing ointment on your bathroom shelf and bring it out at the first cough or sniffle, at rheumatism's first warning tingle.

Made from pure oil of mustard, with the blister and sting taken out, Musterole penetrates the skin and goes right down to the seat of the trouble.

Order Musterole today from your druggist. He has it in 35c and 65c jars and tubes; hospital size, \$3.

The Musterole Co., Cleveland, Ohio BETTER THAN A MUSTARD PLASTER



What a pity she doesn't know that Resinol Soap would clear her skin

"She would be a pretty girl, if it wasn't for that pimply, blotchy complexion!" But the regular use of Resinol Soap, aided at first by a little Resinol Ointment, would probably make it clear, fresh and charming. If a poor skin is your handicap, begin using Resinol Soap and see how quickly it improves.

Resinol Soap and Resinol Ointment are sold by all druggists. For free sample of each, write to Dept. 9-R, Resinol, Baltimore, Md.



## Dress Designing Lessons FREE

Women—Girls—15 or over, can easily learn Dress and Costume Designing during their spare moments

IN TEN WEEKS Dress and Costume Designers Frequently Earn

\$45 to \$100 a Week

Many Start Parlors in Their Own Homes Every woman who now does plain sewing should take up Designing.

HUNDREDS LEARN MILLINERY BY MAIL

Successful farmers like Successful Farming.

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—it is the original patented pipeless furnace, made in one of the largest plants manufacturing pipeless furnaces exclusively.

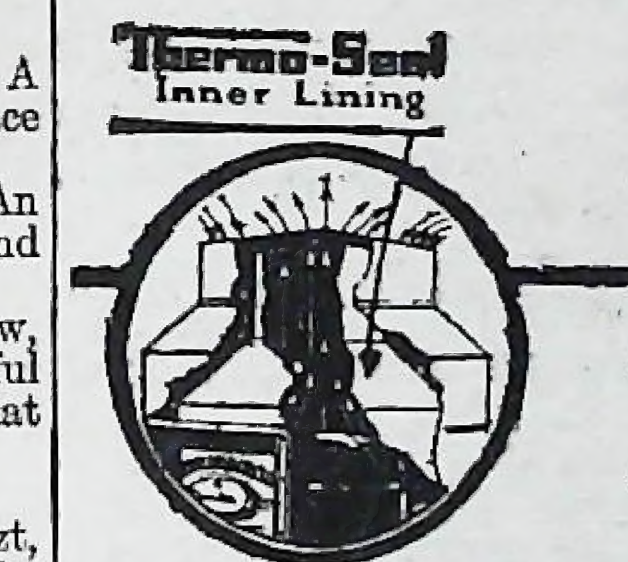
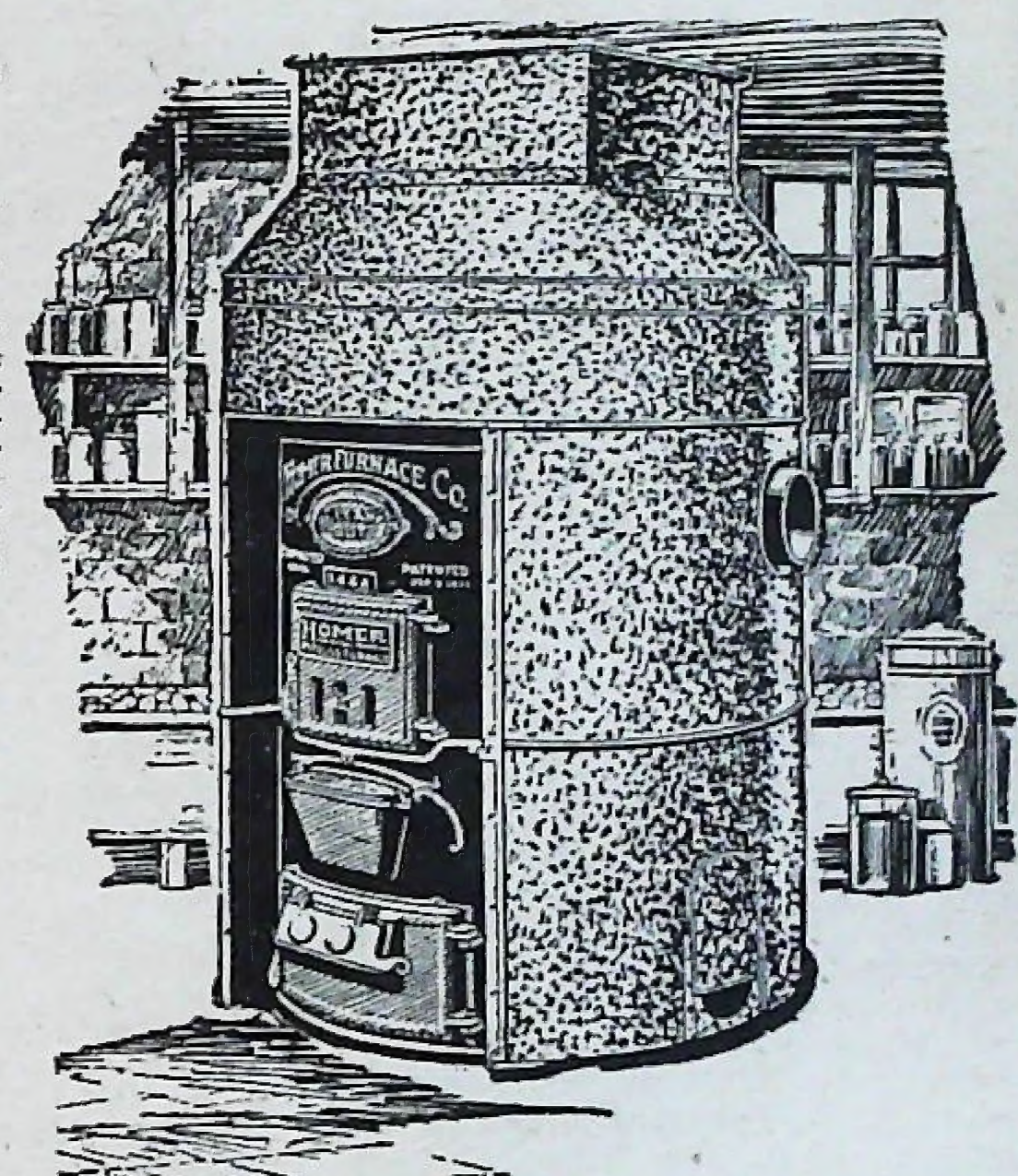
The Homer has marked advantages you will find in no other furnace, such as the Thermo-Seal Inner Lining, and extra strong, rust-resisting Strokel Iron Castings which make it last a lifetime.

Choose it because it is sold by Homer dealers, all furnace experts, who will advise you regarding your heating problems, and guarantee to heat every room in your house perfectly.

Let us send you our interesting book, "The History of the Pipeless Furnace," together with the name of your nearest dealer.

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PIPELESS FURNACE

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and has brought contentment and happiness to thousands of home seekers and their families who have settled on her FREE homesteads or bought land at attractive prices. They have established their own homes and secured prosperity and independence.

In the great grain-growing sections of the prairie provinces there is still to be had on easy terms

**Fertile Land at \$15 to \$30 an Acre**

—land similar to that which through many years has yielded from 20 to 45 bushels of wheat to the acre—oats, barley and flax also in great abundance, while raising horses, cattle, sheep and hogs is equally profitable. Hundreds of farmers in Western Canada have raised crops in a single season worth more than the whole cost of their land. Healthful climate, good neighbors, churches, schools, rural telephone, excellent markets and shipping facilities. The climate and soil offer inducements for almost every branch of agriculture. The advantages for

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make a tremendous appeal to industrious settlers wishing to improve their circumstances.

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160 ACRE FARMS IN WESTERN CANADA FREE



## MUSIC OFFERINGS FOR APRIL

If you are interested in any particular line of music which is not listed in our music department, we will be pleased to give you any information you desire about music for any instrument, any arrangement of voices, or any grade of piano music.

**Vocal**  
When the Flag Goes By, by Nevin (e-e). A patriotic song especially appropriate for Memorial day exercises. It is written in march time with a splendid stirring accompaniment. May also be used by a chorus.

I'm a Pilgrim, by Johnson. (d-e.) This beautiful sacred song is written by the composer of "Face to Face," and is nearly as good a seller. It has been said of this composer's songs that they "will endure as long as the human heart loves God, and the human ear loves melody."

Sweetheart for You, by Moore. (c-f.) A very melodious high-class waltz ballad. This would be suitable for any program, but it is not difficult to sing or to play.

Granny, You're My Mammy's Mammy, by Akst. (e-e.) By the writers of "My Mammy," this song even tho it is new is already very popular. We have had Mammy and Daddy songs, but this is the first grandmother song, and it is well liked by young and old.

I Wish You All the Luck in the World, by Olman. (d-e.) A bright, popular song, written in march time.

Don't Break My Heart With Good-bye, by Ball. (d-e.) The title tells the story of this waltz ballad by a well-known composer. Written in waltz time with a well-arranged harmonized refrain.

**Instrumental**  
After the Shower, by Loth, Grade 4. A melodious noveau, bringing in grace notes with a dainty effect.

Mood Pensive, by Rolfe, Grade 4. An appealing reverie, very harmonious and suitable for church or program use.

A Song of India, by Rimsky-Korsakow, Grade 4. An unusual and beautiful melody. The song was so well liked, that this piano arrangement was made.

**Piano Duet**  
Second Hungarian Rhapsody, by Liszt, Grade 5. This is the best known of the fifteen rhapsodies Liszt wrote and the only one that has ever been published in the cheaper edition of music. They were all originally written for piano solos and are used on the programs of our best musicians both here and abroad.

Address all orders for music to Successful Farming

**JANUARY MUSIC COUPON**  
(which expires April 30th)  
Vocal: Tomorrow Land, 30 cents; When Shall We Meet Again, 30 cents; Somebody's Mother, 30 cents; Mary Jane, 30 cents; Every Tear is a Smile in an Irishman's Heart, 10 cents.

Instrumental: Star Dance Folio, 75 cents; Phyllis, 30 cents; Souvenir, 15 cents; Ferns and Flowers, 15 cents.

Violin and Piano: Souvenir, 15 cents.

**APRIL MUSIC COUPON**  
(This coupon expires July 31st, 1922.)

Vocal: When the Flag Goes By, 40 cents. I'm a Pilgrim, 40 cents. Sweetheart for You, 30 cents. Granny, You're My Mammy's Mammy, 30 cents.

I Wish You All the Luck in the World, 30 cents. Don't Break My Heart With Good-bye, 10 cents.

Instrumental: After the Shower, 30 cents. Mood Pensive, 30 cents. Song of India, 15 cents.

Piano Duet: Second Hungarian Rhapsody, 15 cents.

Name.....Box.....

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Successful Farming advertisements are guaranteed. They save you money

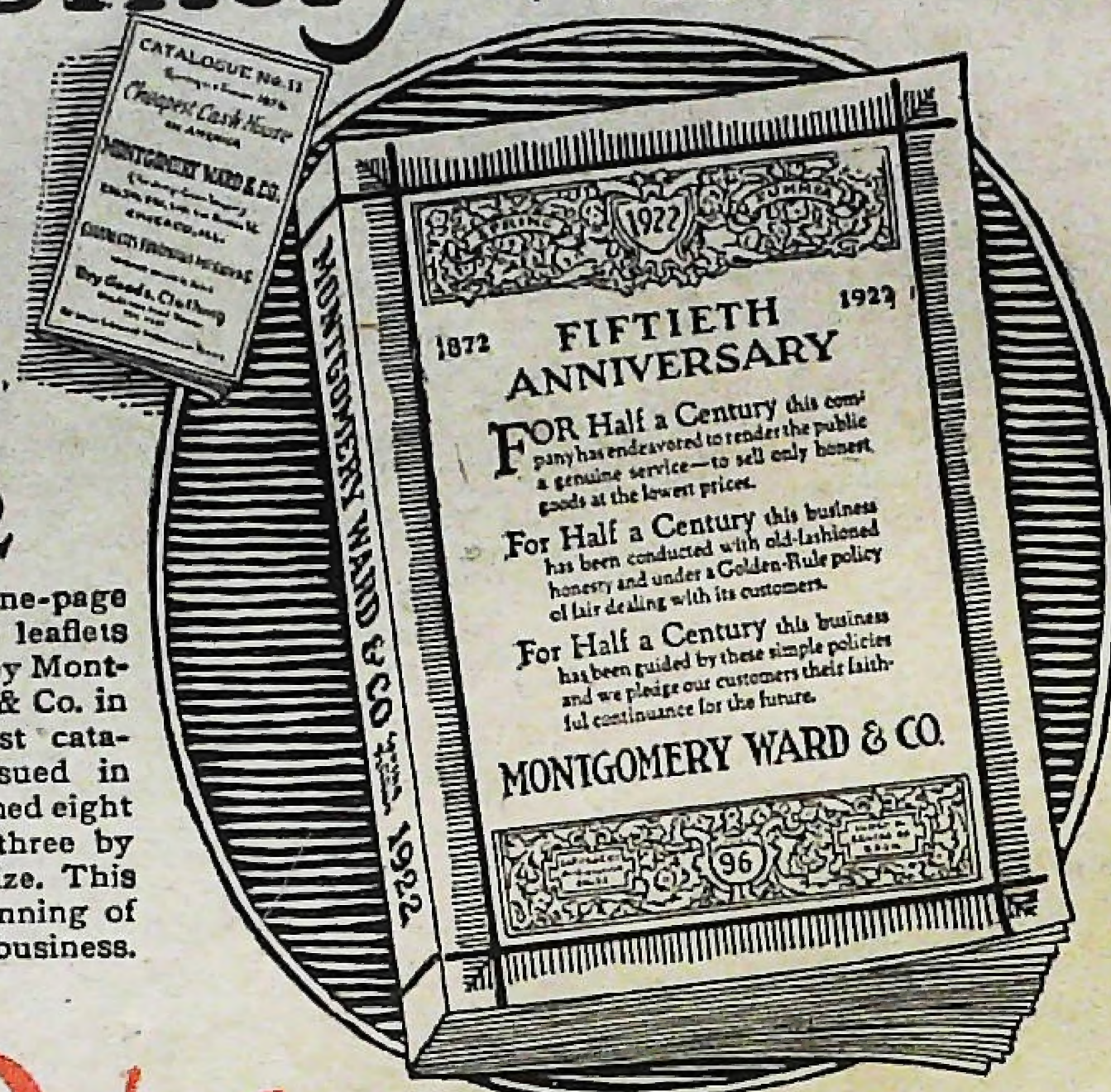


# Montgomery Ward & Co.

The Oldest Mail Order House is to-day the most progressive —

1872

THE first one-page mail order leaflets were sent out by Montgomery Ward & Co. in 1872. The first catalogue was issued in 1874. It contained eight pages, about three by five inches in size. This was the beginning of the mail order business.



1922

FIFTY years of fair dealing, of prices that always offered a saving, and today this big Golden Jubilee Catalogue contains everything for the Home, the Farm and the Family.

## 50<sup>th</sup> Anniversary

This big Golden Jubilee Catalogue pictured above is priced to match the spirit of the times. Some things are priced at no profit, many things at very little profit. It is your best guide to the lowest prices.



HIS is the Golden Anniversary of Montgomery Ward & Co. We have completed Fifty Years in the service of the American Public.

In 1872 this business was begun in one small room, twelve by fourteen feet. Today, millions buy from us on faith in the name: "Montgomery Ward."

Upon what is that faith founded? Upon Fifty Years of fair dealing, upon Fifty Years devoted to selling only goods of standard quality at the lowest possible prices.

This 50th Anniversary Catalogue keeps faith with our customers. It is priced to meet present-day conditions. It is filled with new, fresh merchandise with every price based upon the new low costs of production.

### Some Things at No Profit Many Things at Little Profit

At Montgomery Ward & Co. we believe we owe a duty to our customers—that it is our duty to sell everything today at the lowest possible prices.

We believe we owe a duty to the American Farmer. Therefore, we are selling *all our Tillage Tools absolutely without profit to us.*

Many of these tools are actually priced at less than it would cost us to replace them today. This is the way we are keeping faith with the American Farmer.

And to the American Woman we are offering almost equal advantages—New York Fashions, selected in New York by Ward's own Fashion Experts. All are offered at the lowest prices possible today.

Everything needed in the home

—everything to make the home more attractive—everything priced at a big saving for you.

### The New-Old Spirit of Montgomery Ward & Co.

We are entering our second half century of business existence. And we step forward with the spirit of youth, of progress in Service and Saving for you.

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## OUR HOME AMUSEMENT PAGE

Wise and Unwise



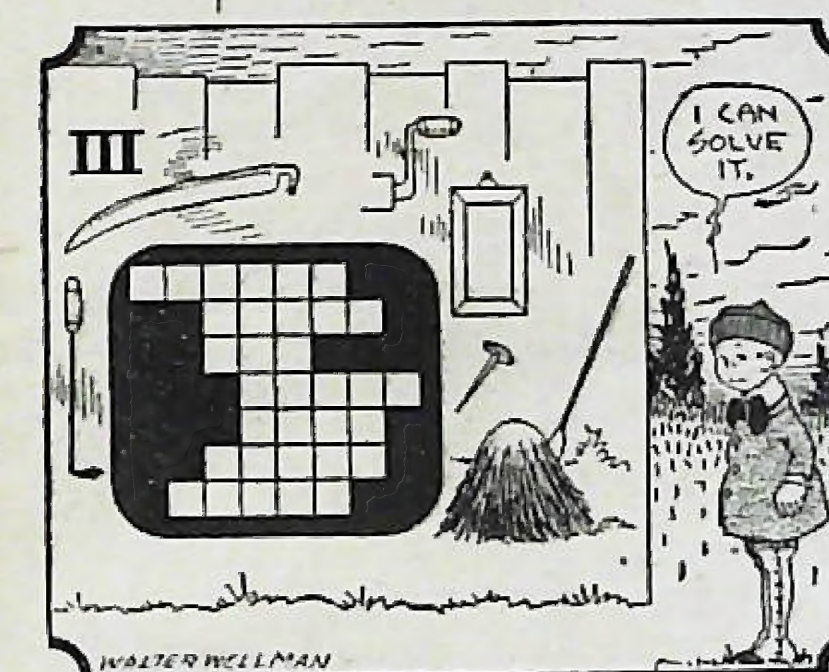
### NOT FIT FOR A MICROBE

One of the tellers in a Columbus bank says of his customers, a teacher, who is the wittiest thing yet. "We make it a practice to give out new bills whenever we are able to send the old ones back to the government," said the teller, "and once when this customer appeared I apologized that I was unable to give her new bills, and asked her if she had any fear of microbes." "I don't really think there are any on this money," said the teacher; "no microbe would attempt to live on my salary."

### BACKFIRE

A current yarn about a liquor loving Irishman has a smile in it. "Father," said he, on meeting the parish priest one day, "phwat is lumbago?" Seeing an opportunity for needed reproof, the good father replied: "Tis a terrible disease which comes from drinking up booze and chasing around nights."

"Is that so?" said Pat. "It says in the paper that the pope has lumbago."—Chicago Journal of Commerce.



### FARM MACHINERY PUZZLE

Here you see seven pictures on the fence. You have seven spaces in which to print the names of these objects. If you guess the names correctly, and then print them in the right spaces, you will have, reading downward, the names of two things used on the farm. What are they?

### TRAGEDY RECIPE

Take one reckless, natural born fool. Two or three big drinks of bad liquor. A fast, high-powered motor car. Soak the fool in the liquor, place in the car and let him go. After due time, remove from wreckage, place in black, satin lined box and garnish with flowers.—From the Walton (Ga.) News.

### A GENTLE REMINDER

An English duchess had been owing her milliner a long time. The money was sorely needed, and after the bill had been repeatedly ignored, the milliner finally sent her little daughter to collect it. "Be sure to say 'Your Grace' to the duchess," said the anxious mother, and the child gravely promised to remember. When, after long waiting, she was ushered into the presence of the duchess, the little girl made a low courtesy, and then, folding her hands, and closing her eyes, she said softly, "For what I am about to receive, may the Lord make me truly thankful."

The quick-witted duchess flushed as her eyes rested on the wistful child who so unconsciously had rebuked her, and without delay made out a check for the amount due to the milliner.—Outlook.

The minister was delivering his farewell sermon. He had been having tough luck in collecting his salary and concluded to quit. Here is what he said: "Now, brethren, I have been appointed chaplain of the penitentiary of the state, and this will be my last Sunday among you. I will preach from the text, 'I go to prepare a place for you,' after which the choir will sing, 'Meet Me There.'"—Kiowa (Kan.) Review.



### AND THERE'S ONLY ONE CURE

"Is your husband still worrying about your automobile?" "Constantly," replied Mrs. Chuggins. "I never knew a man to suffer so much with silver complaint."—Washington Star.

### THE NATURAL POSITION

Photographer (taking a picture of a man and his son): "Young man, it would look better if you would put your hand on your father's shoulder."

Father: "I beg your pardon, sir; it would be more natural if he put his hand in my pocket."

### AND SHE WAS

They strolled in the twilight together. The heavens were blossomed with stars; She paused for a moment in silence As he lowered for her the bars.

She cast her soft eyes upon him, But he spoke no loving vow— For he was a rustic laddie And she was a Jersey cow.

—Western Farmer.

### ALL THE TRIMMINGS

An old farmer who, by hard work and parsimonious habits, had got together a little fortune, decided that the time had at length arrived when he was justified in ordering a family carriage. He went to a carriage-builder's, and described in detail the kind of vehicle he wished to buy.

"Now, I suppose you want rubber tires?" said the carriage-builder.

"No, sir," replied the old farmer in tones of resentment. "My folk ain't that kind. When they're riding they want to know it."—Edinburgh Weekly Scotsman.

### SOMETHING TO IT, AT THAT

It was an old Scotch lady who always saw some good in every one. One day a neighbor in desperation said, "Well, Mrs. Campbell, I do say I believe if I was tellin' ye the devil is black ye'd think o' some good o' him."

"An' I might," mused gentle Mrs. Campbell. "We'd have little trouble in this world were we all as industrious as the devil."

They were at dinner—the first one the bride had prepared. The bridegroom choked, then gasped—"This lettuce—it's awful—did you wash it?" "Of course I did," was the sweet reply; "and, my dear, I used perfumed soap, too!"

### SOMETHING FOR NOTHING

Pat went to a druggist to get an empty bottle. Selecting one that answered his purposes, he asked:

"How much?"

"Well," said the clerk, "if you want the empty bottle it'll be five cents, but if you have something put into it we won't charge anything for the bottle."

"Sure, that's fair enough," said Pat. "Put in a cork."—The Western Fruit Jobber.



### HAD THE MAKIN'S

The new minister was calling. Among other things he was lamenting the prevalent use of profanity, the habit growing even among small children.

The small daughter of the house, standing by, said timidly, "Mister, I don't swear, but I know all the words."

### ANSWERS TO MARCH PUZZLES

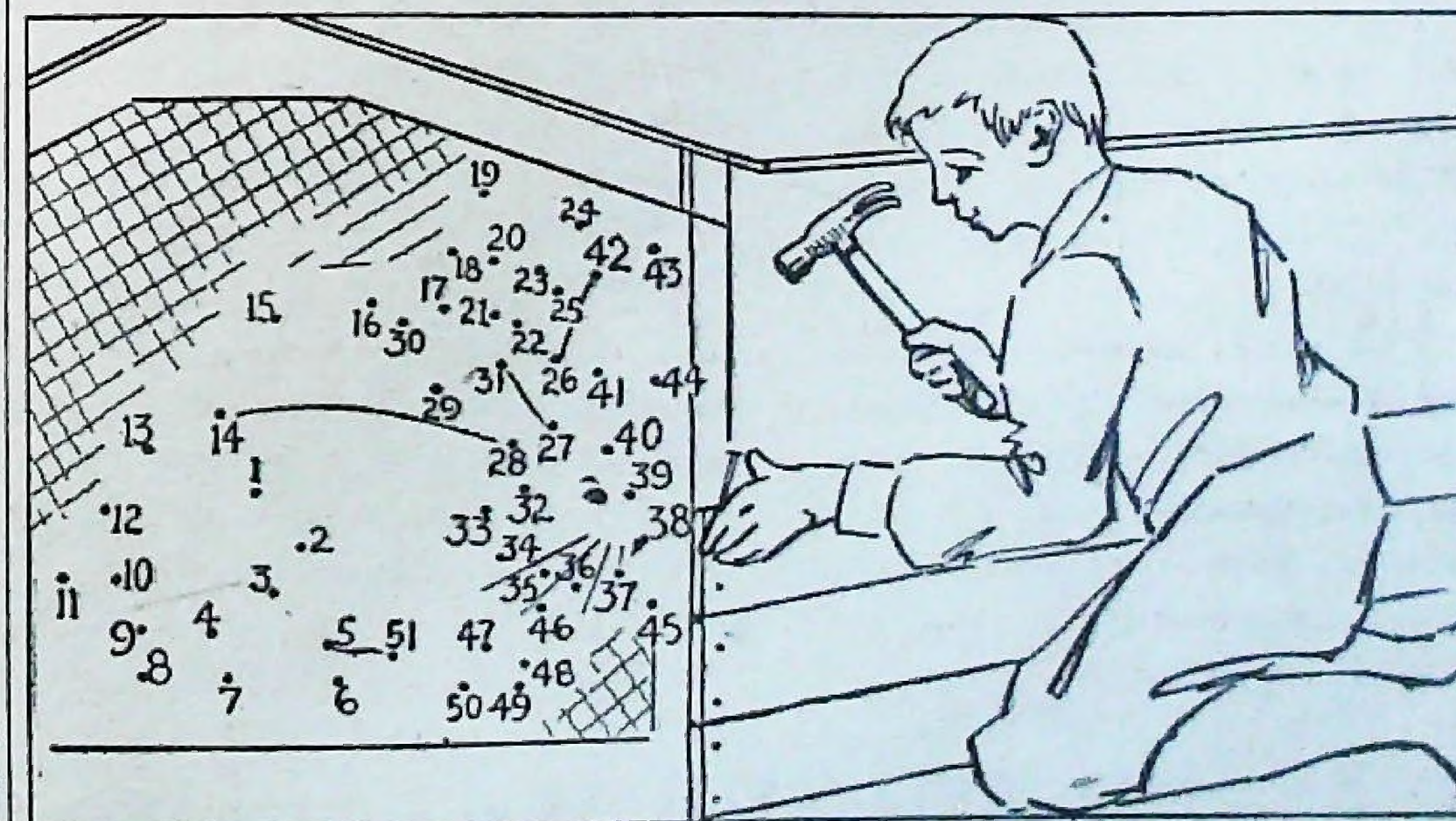
Farm Crops

Here are the names of the farm crops to be made from the letters shown in the alphabetical sign shown in last month's issue:

Wheat, barley, rye, oats, alfalfa, corn, radish, squash, peas, kale, onion, pumpkin.

Simple Beheadings

1. Flax—lax; 2. Chair—hair; 3. Ball—all; 4. Slight—light; 5. Year—ear; 6. Scow—cow; 7. Slay—lay; 8. Fable—able; 9. Block—lock; 10. Sham—Ham; 11. Star—tar; 12. Danger—anger.





## THE BACK PORCH

CONSIDER that no feature of the farm home adds so much to the comfort and convenience of the housewife and the pleasure of the family as a suitably contrived back porch. Call it veranda or piazza if you wish, but among friends and neighbors it will always be known as the back porch.

Concerning the American farmhouse kitchen porch its achievement fortunatel

dows open is partitioned from the remaining portion by a lattice work screen which cuts off the view of the kitchen end of the porch satisfactorily from that part abutting on the living room and hall, an opening the width of an ordinary doorway being left at the outer end of the screen so that communication is not cut off. Against this screen on the kitchen side four shelves each nine feet long are fastened on neat iron brackets. These shelves are covered with white enameled cloth and serve as a fresh-air pantry in all but the coolest weather. From this part of the porch there is an entrance to the cellar and here a pump and sink are located. In one corner two boxes with hinged lids covered with enameled cloth serve the purpose of a corner seat when needed and hold such things as the kerosene can, stove blacking, etc.

In warm or mild weather but little time need be spent in the kitchen by the housewife. All vegetables can be prepared for the table or for cooking on the porch, here the gasoline stove can be used not only for the preparation of meals but for fruit canning as well. Here the ironing can

be done and here in an out-of-the-way place the unobtrusive fireless cooker may be left to its own devices.

Now for the other side of the lattice screen. Here are the hammock and easy chairs or on birthday celebrations and other such gatherings, a long dining table where in the shade of gay striped awnings the meal may be eaten in cool comfort. On such occasions the dining end of the porch is as conveniently served from the kitchen end as would be the dining room proper from the kitchen proper. Such an arrangement is more restful and refreshing than the indoor dining room. Family meals are delightfully served on such a porch. In fact, if you build it two stories high, as we did ours, and use the upper porch, which is screened, of course, for sleeping purposes, you can almost live out of doors both waking and sleeping hours without interrupting the schedule of domestic work or disarranging in the least the daily round. The screened-in back porch large enough to be used as kitchen



milk are used in the cooking, and even then it is not a good plan to leave it out of the diet for any great length of time.

Another very valuable element in milk is its animal protein. Dieticians tell us that a pound of cottage cheese contains the same food value as a pound of meat. If plenty of these substances are used the meat bill will be much less. An important item to remember when we are saving out the day's apportionment of milk, before separating. The value of cottage cheese was established during the world war. For it was found that if cheese was served, meat was unnecessary for that meal.

Many adults have outgrown their appetites for milk. This is mostly from habit, but even so the possibilities of cooked dishes containing milk are so numerous that they may still have the benefit of its food elements.

We are fond of fried corn meal mush in milk, for supper. When this is served it is all we have, and it is sufficient, as corn and milk are both very rich in food value. Two quarts of milk will make plenty for the four of us. The cost of the milk, at even fifteen cents, and the small amount of cornmeal used would not equal over eight cents apiece. I can think of nothing else with the same amount of food value that would not cost more than twice that amount.

Too many fail to take these things into consideration. They are thinking only of the price of milk and cream, not of what they must necessarily buy in place of them. —L. B. H.

at one end and as dining and living room at the other comes close to being a continuous picnic and vacation.—O. F. T.

Faultfinding may be either an honor or a sin, depending on whose faults they are.

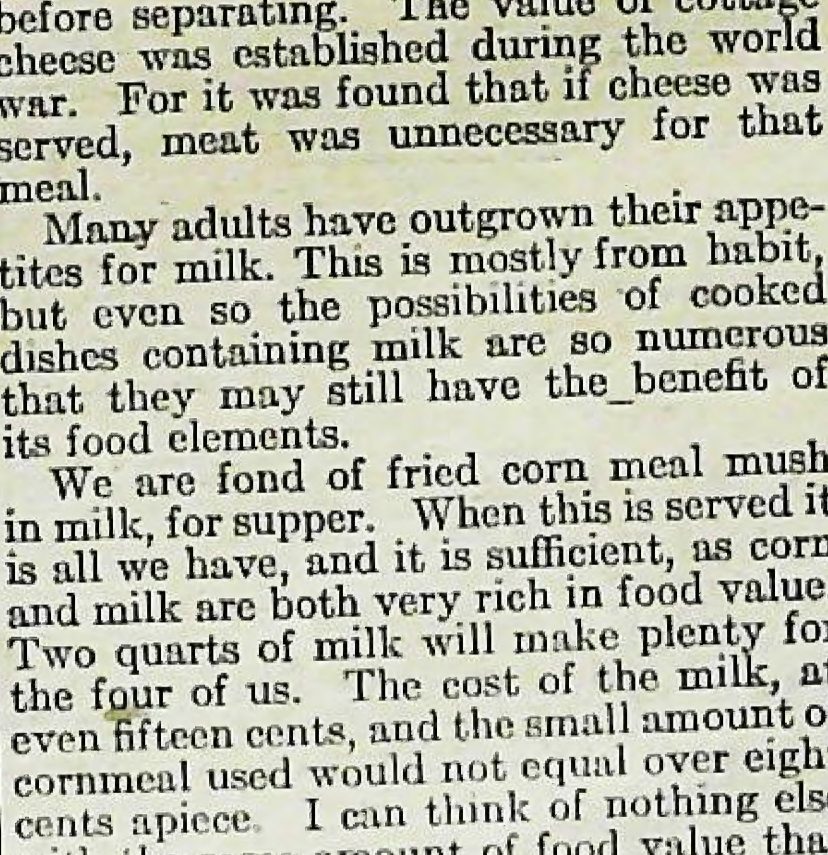
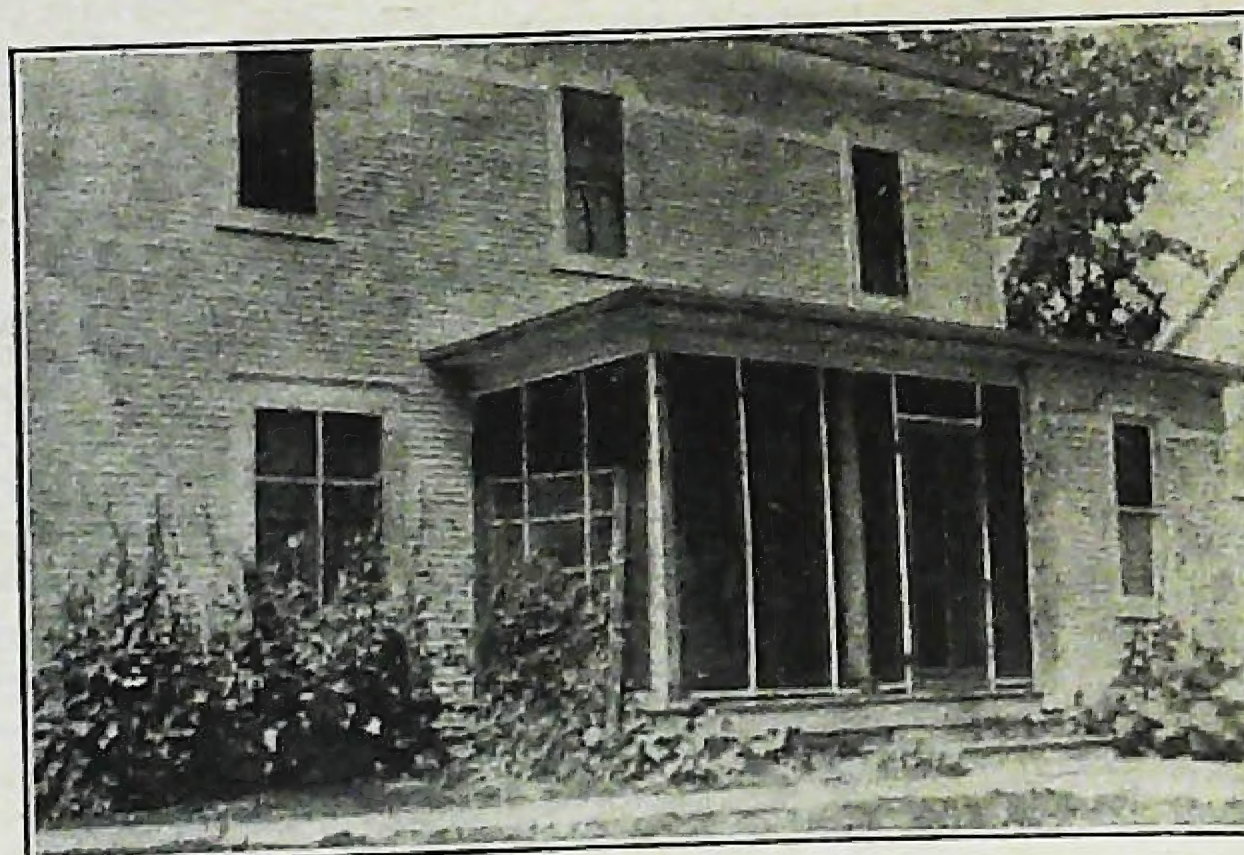


is not dependent on the building of a new house. It can be added as a happy afterthought to the porchless dwelling. Or the inadequate "stoup" of former days may be replaced by such a structure as shall prove a continual joy to its possessors. As suggesting what may be obtained in the building of such an addition to the farmhouse, allow me to describe our own, which extends the full length of the house at the back, its dimensions being twelve by forty-three feet, inside measurement. It has an outer glass door and steps at each end. A solid wainscoting thirty-one inches high extends entirely around except at doorway openings. This wainscoting is topped by a continuous window stool. The space between stool and ceiling is divided into openings. These openings are filled in summer by hanging a pair of screen doors in each, the doors being hinged to the square posts and meeting in center of openings. In cold weather these screens are taken down and replaced by sash work glazed doors, a pair in each opening hung on the same hinges that support the screen doors in summer.

If a porch is to be enclosed by glass a good way is to have continuous windows all the way around hung with weights exactly as ordinary windows are hung. In times of storm or severe weather such windows can be promptly closed, thus making the porch weather-tight.

That the porch effect may not be lost, these windows should be so cased or framed that when open they may be pushed up entirely out of sight.

Now as to the uses of our porch. The part on which the kitchen doors and win-



## USE MILK AND CREAM

DO you belong to the class of farmers who makes their cows keep up the expense of the table? Everyone agrees that this is a thrifty, money-saving plan. But to do this, do you measure out a meager amount of milk and cream to be used each day and carry the remainder off to town to exchange for canned goods and other expensive foods?

This is mistaken economy! Only those who have been deprived of the use of milk can fully appreciate its value. I feel that I can speak with authority on this subject for I grew up on the farm. However, most of my married life has been spent in town. I necessarily learned the full value of every spoonful of milk to be obtained from a scant quart.

Milk is the only product that contains all the elements essential to the body. It is especially desirable for children as it supplies their needs more than anything else can do. It is nature's food.

Many housewives, in the old days, received a small amount per pound for their butter. They allowed their families barely enough to last until the next churning, if they spread it thin, and in exchange they bought sugar, dried hominy, rice, coffee, and other groceries.

Butter is of great importance among the products of milk. It is a most valuable animal fat and in addition contains vitamins, protein and mineral salts.

People who are omitting butter from their diet with the idea that they are obtaining the same food elements as found in butter in other ways are deceiving themselves sadly. Butter should be omitted only when milk, cream and butter-



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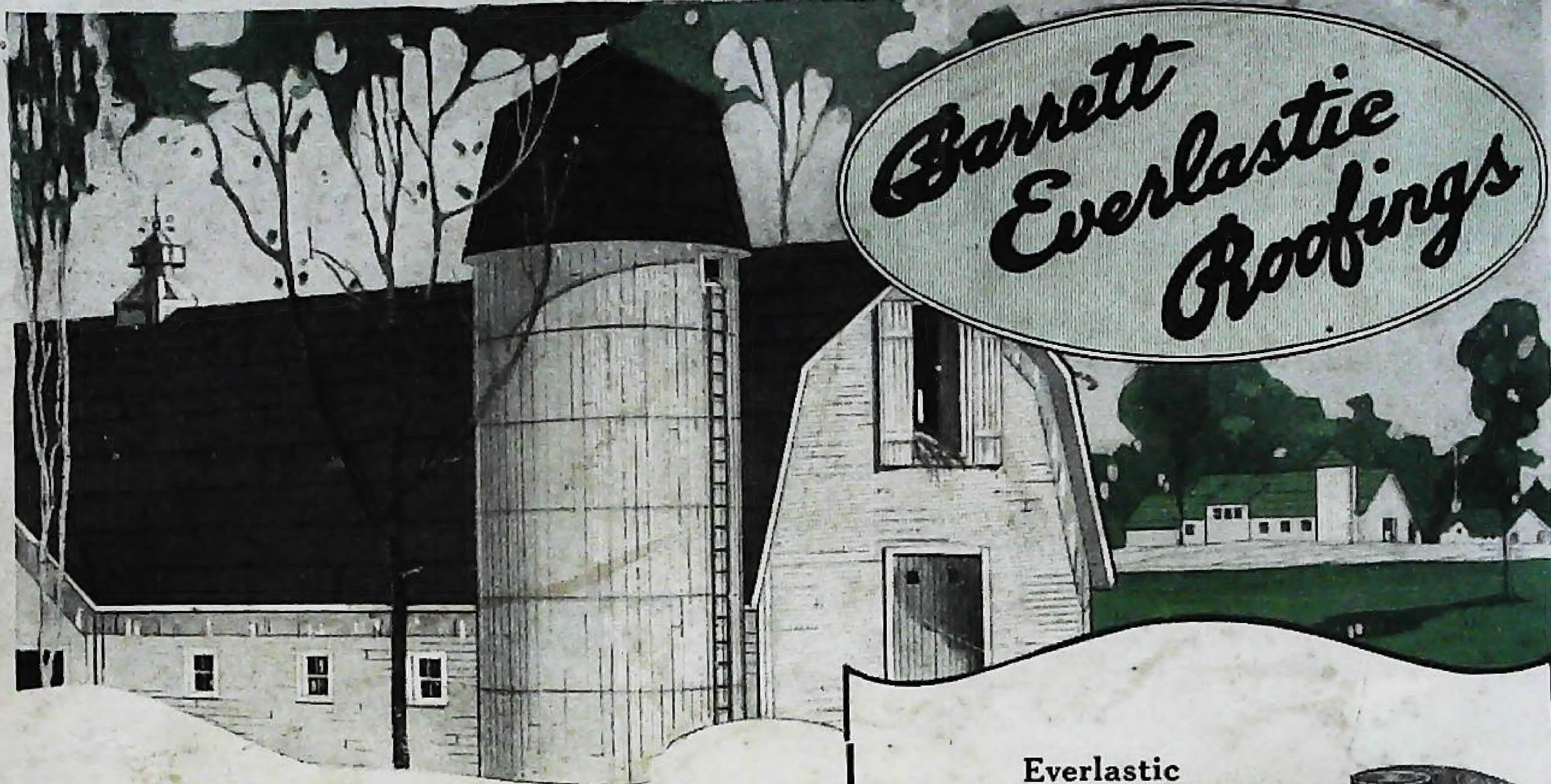
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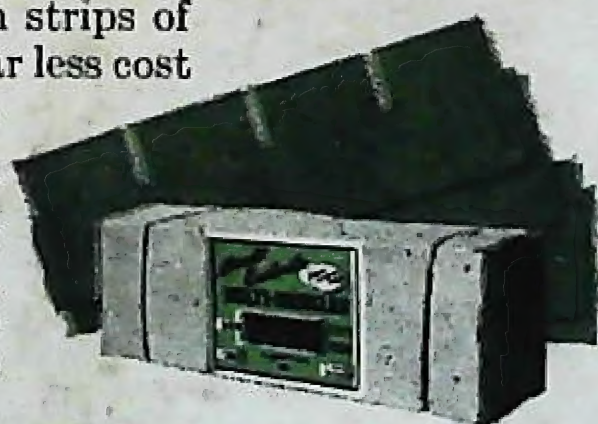
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